

**University Graduate School**

**2000/02**

**Bulletin**

**INDIANA UNIVERSITY**

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## University Graduate School

# 2000/01 Bulletin

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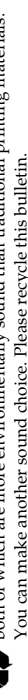
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## Admission

**Undergraduate Requirements** The University Graduate School will consider applications from students holding baccalaureate degrees from Indiana University or from other accredited four-year collegiate institutions. The University Graduate School may admit students who do not meet stated admission criteria provided that the deficiencies amount to no more than one year's work. The dean will determine the condition of admission in such cases. If more than a year's work is deficient, students should apply to the University Graduate School for admission to the Continuing Nondegree Program. Students from unaccredited institutions may be admitted as special students for one semester; if their records are then satisfactory and their department, program, or school recommends them, they will be given full standing. Ordinarily, a B (3.0) average in the undergraduate major is required for admission to the University Graduate School.

Before they may take courses for graduate credit, all individuals must be accepted by a department, program, or school authorized by the University Graduate School to offer degrees and must be admitted to the University Graduate School.<sup>1</sup>

**Indiana University Baccalaureate Degree Candidates** Candidates for baccalaureate degrees at Indiana University may apply for conditional admission to the University Graduate School and may enroll for graduate credit for that portion of their program not required for completion of the baccalaureate degree, provided:

1. they are within one semester of meeting baccalaureate degree requirements. (If the baccalaureate is not completed within that semester, graduate credit earned may not be counted toward an advanced degree);
2. the total course load does not exceed that ordinarily taken by a full-time graduate student; and
3. the courses taken for graduate credit are authorized to carry such credit. (In certain instances graduate credit is allowed for undergraduate courses.)

**Application** Prospective graduate students, including graduates of Indiana University, must make formal application to a department or academic school. Most programs of the University Graduate School consider applications for admission and financial aid that are completed by the following dates: January 15 for the fall semester, September 1 for the spring semester, and January 1 for the summer. If a program uses other deadlines, the applicant will be informed by the staff of the program. Many graduate programs consider applications submitted after a deadline as long as all available spaces for students have not been filled by highly qualified applicants. Inquiries about late applications for admission or financial aid should be addressed to the program of your intended major.

Application forms are available in the office of the University Graduate School, Kirkwood Hall 111, Indiana University, Bloomington, IN 47405, in the IUPUI Graduate Office, IUPUI, Union Building 518, 620 Union Street, Indianapolis, IN 46202, and in departmental offices. Many departments also accept electronic applications.

For further information, consult <http://www.gradapp.indiana.edu/>. All applications must be accompanied by one complete transcript of previous college and university work and should be submitted directly to the department in which the student wishes to work. Indiana University graduates should request the registrar's office to send unofficial copies of their transcripts to that department.

By action of the Trustees of Indiana University, a nonrefundable application fee of \$40 is required of all applicants. An application fee of \$35 (1999-2000 fee) is required for all applicants applying to Indiana University Graduate School programs on the IUPUI campus. All Graduate Non-Degree students on the Indianapolis campus must pay \$35 (1999-2000 fee) as well.

Admission (except for continuing, nondegree students) is made to a particular department for a specific degree, and no student shall be permitted to work toward a degree without first having been admitted to do so. A flexible entry procedure for basic science programs at Indianapolis allows Ph.D. students up to one year to identify a research laboratory and degree program. Students desiring to change departments should fill out Transfer of Department Forms, which may be obtained in the offices of individual departments or schools (e.g., the School of Education, the College of Arts and Sciences). Requests for change of degree status must be submitted by the department and approved by the dean.

<sup>1</sup>These three types of administrative units (department, program, and school) will be subsumed under the term "department" in the following pages for the sake of simplicity.

Following the notice of admission to the University Graduate School, an applicant normally has two calendar years in which to enroll. Supplementary transcripts of any additional academic work undertaken during that period are required, and a department may request additional letters of recommendation. Should the updated material prove unsatisfactory, the admission may be cancelled. If the applicant fails to enroll within two years, a completely new application is required.

**Graduate Records Examination** Applicants may be required to take the Graduate Record Examination General Test, Subject Test, or both (see departmental requirements). Information concerning these examinations may be obtained from Graduate Record Examinations, Educational Testing Service, CN 6000, Princeton, NJ 08541-6000. Applications are available in the office of the University Graduate School.

**International Students** There are special application procedures for those who are not citizens of the United States or who have had their previous schooling outside the United States. Such individuals should obtain the International Packet from the Office of Admissions at Bloomington (300 N. Jordan Ave; (812) 855-4306; e-mail INTLADM@indiana.edu) or the Office of International Affairs at IUPUI (Union Building, Room 207; (317) 274-7294; e-mail intlaff@iupui.edu; the international application may be down loaded from <http://www.iupui.edu/~oia>). Because of the extra procedures required in evaluating foreign credentials, the application fee for international students is \$40 (\$55 at IUPUI). This fee need be paid only once, no matter how many degrees a student might earn from Indiana University.

Once enrolled, international students who wish to change their programs of study must first obtain the approval of the Office of International Services. When such approval is granted, application for formal change of status may then be made to the University Graduate School according to the same procedures governing United States citizens. International students must enroll in at least 8 credit hours each fall and spring semester in order to meet visa requirements. Any exceptions to this regulation must be approved in advance by the Office of International Services.

Since the language of instruction at Indiana University is English, proficiency in reading, writing, speaking, and understanding English is essential. Applicants whose native language is not English should submit proof of such proficiency by the time they apply for admission. Normally this is done by taking the

Test of English as a Foreign Language (TOEFL). Results of this test should be submitted as part of the application for admission. The TOEFL examination is given six times a year in the United States and many foreign countries. Further information may be obtained at American consulates or by writing to TOEFL, Box 899, Princeton, NJ 08541, U.S.A. If it is not possible to take the TOEFL, applicants should obtain a statement by a responsible official, ordinarily a United States consular official, attesting that they read, write, speak, and understand the English language well enough to pursue, at an American university, a program leading to an advanced degree in their chosen field. Such a statement should be submitted with the application for admission.

Prior to registration for classes, all new students whose native language is not English are required to take an English Language Proficiency Test administered by the Indiana University Center for English Language Training (CELT) at Bloomington and the ESL Program and the Office of International Affairs at Indianapolis. If the results of this test indicate that a student needs additional work in English as a second language, appropriate recommendations will be made to the student's academic advisors. This requirement has been established in recognition of the vital importance of language competency to the student's academic success. Prospective students whose native language is not English and who have been offered positions as associate instructors are required to pass additional tests in English, since success as a teacher at Indiana University is dependent upon one's ability to communicate in the English language. Information regarding these examinations may be obtained directly from the individual academic departments.

## Nondegree Students

**Special Students** Students who have not been admitted to a degree program but who intend to study primarily in one department may be admitted by that department with the approval of the dean as special students. They must apply to a department just as degree students do and should indicate their desired status.

**Continuing Nondegree Students** The holder of a baccalaureate degree who wishes to study on a non-degree basis without necessarily concentrating in a single department may be admitted to the University Graduate School as a continuing nondegree student. Such students may not accumulate more than 18 credit hours in a single subject area, and may enroll only in those courses for which they can obtain specific permission to register, which takes

into consideration the academic background of the individual and course enrollment limitations. For details of admission and further information, students should consult the University Graduate School at Bloomington (Kirkwood Hall 111, (812) 855-8854) or the Graduate Nondegree Program at Indianapolis, 620 Union Drive, Room 518, (317) 274-1577).

A student initially admitted as a continuing nondegree student who later wishes to obtain a graduate degree must make formal application and be admitted to a departmental degree program. The department may then recommend to the dean that credit earned as a continuing nondegree student be applied to degree requirements. Students should be aware that certain departments and schools specifically prohibit work taken under continuing nondegree status from counting toward a degree after a student has been admitted to a degree program.

## Academic Regulations

**Residence** All candidates for graduate degrees (with the exceptions outlined below) must complete at least 30 credit hours of graduate work while enrolled on campuses of Indiana University. Of these hours, at least one semester or two summer sessions of full-time work must be taken in University Graduate School degree-granting units on the Bloomington, Fort Wayne, Indianapolis, South Bend, or Southeast campus. Candidates for the Ph.D. degree must spend two consecutive semesters during one academic year on the Bloomington or Indianapolis campus.

**Transfer of Credit** Upon recommendation of the department and with the approval of the dean, work taken for graduate credit at other institutions may be transferred in partial fulfillment of degree requirements. No course may be transferred from another institution unless the grade is B or higher and unless the course was completed within the time limit prescribed (see "Graduate Credit—General" section below). The following restrictions apply:

1. Candidates for the M.A., M.S., LL.M., or M.A.T. degree may offer up to 8 hours of graduate credit from other institutions.
2. Candidates for the M.A.T. degree who are graduates of Indiana University may offer up to 12 hours of graduate credit from other institutions.
3. Candidates for the M.F.A. degree may offer up to 20 hours of graduate credit from other institutions.

4. Candidates for the Ph.D. degree may offer up to 30 hours of graduate credit from other institutions.

It must be emphasized that the transfer of credit is not an automatic occurrence. Students must obtain the written consent of both their departmental advisor and the dean before credit earned at other institutions will be added to their records.

**Work Done at More than One Indiana University Campus** Students who plan to earn a degree through a degree-granting unit on one Indiana University campus and who plan to take a substantial number of hours on one or more of the other Indiana University campuses in partial fulfillment of degree requirements should have their programs of study approved in advance by the degree-granting unit. The residency requirement must be met on the campus where the degree-granting unit is located.

**Correspondence Study** Credit earned in correspondence courses may not be counted toward any advanced degree. It is possible, however, that such work may be used by the student to make up entrance deficiencies.

**CIC Traveling Scholar Program** This program enables Indiana University doctoral-level students to take advantage of special resources available at other CIC institutions that do not exist at Indiana University. Students in the program register and pay fees at Indiana University but attend one or more of the participating institutions, each for no more than two semesters or three quarters. For further information, contact the University Graduate School office.

**Auditing** Students may register for courses on an auditing basis. Courses in which a student is so enrolled carry no credit but are listed in the student's transcript. An auditing fee is charged.

The member institutions of the Committee on Institutional Cooperation (CIC) are the University of Chicago, the University of Illinois at Chicago, the University of Illinois at Urbana-Champaign, Indiana University, the University of Iowa, the University of Michigan, Michigan State University, the University of Minnesota, Northwestern University, The Ohio State University, Pennsylvania State University, Purdue University, the University of Wisconsin-Madison, and the University of Wisconsin-Milwaukee.

**Full-time Study** Ordinarily, students shall be considered full time if they are registered for 8 hours of credit (4 credit hours during each summer session) and their programs of study meet with the approval of the departments. Courses taken as an auditor may not be counted in the definition of "full-time study"; however, courses taken to remove undergraduate deficiencies for admission may be counted.

Students holding appointments as associate instructors, graduate assistants, or research assistants must ordinarily be registered for 6 credit hours during each full semester and 3 credit hours (4 credit hours in case of 4-credit courses) during the summer session to be considered full time. They may count work required by their appointments toward computation of full-time graduate work. In departments where work loads are different in the first and second semesters, the student's registration for the two semesters combined must total at least 12 credit hours.

For academic purposes, the University Graduate School will consider as full time certain students who are exceptions to the above definitions: M.A., M.S., and LL.M. candidates whose completed courses and deferred thesis credits total 30 hours; M.F.A. candidates whose completed courses and deferred thesis credits total 60 hours; and Ph.D. students whose completed courses and deferred dissertation credits total 90 hours, providing they are working on theses or dissertations for the completion of the degree. Such students, however, must enroll in at least one hour of graduate credit each semester. For master's candidates, such enrollment will be limited to the five-year period allowed for completion of the master's degree; this enrollment for doctoral candidates will be limited to the seven-year period after passing the qualifying examination. Students who have already accumulated 90 or more hours of graduate credit and who hold university-administered student appointments as associate instructors, graduate assistants, or research assistants amounting to at least 0.375 FTE (15 hours per week work load) will be required to enroll for at least 6 hours of credit during each semester they continue to hold an appointment, such hours to be charged at the allocated fee rate.

Students may take no more than 16 hours of credit in any semester nor more than a total of 16 credit hours in all the summer sessions in any one year without permission of their graduate advisor. Students who are employed are advised to take into account the demands that such activities make on their time and to reduce their course loads accordingly.

**Transfer from One Department to Another** Matriculated students wishing to transfer from one department within the University Graduate School to another should first consult their graduate advisors or advisory committees and the graduate advisor of the new department about the wisdom of the change. International students desiring to make such a change must also obtain the approval of the Office of International Services. Application to the new department may then be made using the Application for Transfer of Department within the University Graduate School form, available in individual departments and schools. Students expecting to receive a degree from the department they are transferring from should be sure that the effective date of the transfer falls after the degree will be conferred, since degrees can be conferred only in the department in which the student is enrolled.

**Graduate Credit-General** Only courses listed in this bulletin or specifically allowed by it may be counted toward the requirements for a degree offered by the University Graduate School. These courses are ordinarily numbered at the 500 level or above. In certain cases, courses at the 300 and 400 level have been specifically approved for graduate credit; all such courses are listed in this bulletin.

Normally, these courses require a higher level of performance and significantly more work (such as an increased number of readings, additional papers, extra class sessions, oral class presentations) for the graduate students than for the undergraduates. Each instructor should identify the graduate students enrolled in the course during the first week of classes and should outline the nature of the work expected of them at that time. In certain other unusual instances the dean may approve, upon recommendation and justification by the student's advisory committee, other 300- or 400-level courses for graduate credit, typically to count toward requirements in the student's outside minor. Such approval should be requested before the course is taken.

In many departments there are strict limitations on the number of 300- and 400-level courses that may be counted toward advanced degree requirements; see departmental notices for details. For descriptions of 300- and 400-level courses, see the College of Arts and Sciences Bulletin or the School of Liberal Arts Bulletin.

Not all courses listed in this bulletin are offered every year and on every campus. Inquiries concerning the availability or suitability of a particular course should be directed to the appropriate departmental chairperson.

The number of hours of credit given a course is indicated in parentheses following the course title. The abbreviation "p" refers to the course prerequisite or prerequisites. Similarly, the abbreviation "k" indicates recommended prerequisites. Courses eligible for a deferred grade are marked by the sign \*.

**Revalidation** Normally, a course may not be counted toward degree requirements if it has been completed more than (a) five years prior to the awarding of the degree for master's students or, (b) seven years prior to the passing of the qualifying examination for Ph.D. students. The graduate advisor, after consultation with the advisory committee, may, however, recommend to the dean that course work taken prior to the above deadlines be revalidated if it can be demonstrated that the knowledge contained in the course(s) remains current. Currency of knowledge may be demonstrated by such things as (a) passing an examination specifically on the material covered by the course; (b) passing a more advanced course in the same subject area; (c) passing a comprehensive examination in which the student demonstrates substantial knowledge of the content of the course; (d) teaching a comparable course; or (e) publishing scholarly research demonstrating substantial knowledge of the content and fundamental principles of the course. Each course for which consideration for revalidation is being requested should be justified separately.

Courses taken while an undergraduate and counted toward the requirements of a baccalaureate degree may not also be counted toward a graduate degree. With only three exceptions, courses counted toward the requirements for one advanced degree may not be counted toward requirements for another degree at the same level.

In the case of the M.F.A., course work completed as part of an M.A., M.S., or M.A.T. degree may, with the approval of the student's department, be counted toward the M.F.A., provided it otherwise meets the conditions stated in this bulletin.

In the case of the Dual Master's Program certain reductions are allowed in the total number of hours required if the two degrees had been taken separately. The Dual Master's Program involves two degrees at the master's level; the degrees may be under the jurisdiction of the University Graduate School or of another school (e.g., Journalism, Library and Information Science, Public and Environmental Affairs). For further information, see below (under "Requirements for Master's Degrees") and the departmental entries for Comparative Literature,

Environmental Programs, Fine Arts, Geography, History, History and Philosophy of Science, Journalism, Library and Information Science, and Music.

Work counted toward a master's degree may also be counted toward the Ph.D. if it has been approved by the student's advisory committee and if it otherwise meets the conditions stated in this bulletin, including the rules governing the transfer of credit from other institutions.

**Grades** Grade points are assigned at Indiana University according to the following scale, and grade point averages are computed taking into account any plus or minus accompanying a letter grade.

A	=	4.0
A-	=	3.7
B+	=	3.3
B	=	3.0
B-	=	2.7
C+	=	2.3
C	=	2.0
C-	=	1.7
D+	=	1.3
D	=	1.0
D-	=	.7
F	=	0

Ordinarily a minimum of a B (3.0) average in graduate work is required for continuance in graduate study, and for all graduate degrees.

Courses completed with grades below C (2.0) are not counted toward degree requirements, but such grades will be counted in calculating a student's grade point average. Some departments may require an average grade in graduate courses higher than 3.0, while others may count no courses completed with grades below 3.0 toward degree requirements (see departmental entries). No work may be transferred from another institution unless the grade is a B (3.0) or higher.

The dean may review a grade record at any time and may place a student on academic probation if the record justifies such action. When the grade point average of a student falls below 3.0, or the student is not making sufficient progress toward the degree, the dean will notify the student that he or she has been placed on probation. Unless the student brings this record up to a 3.0 grade point average, or begins making satisfactory progress in the next semester of enrollment, the student will not ordinarily be allowed to continue in the University Graduate School.

If the qualifying examination is used for this purpose, the number of courses to be revalidated by this method should be limited to two in order to avoid compromising the integrity of the qualifying examination process.

**Pass-Fail Option** Students in good standing (i.e., with a grade point average of 3.0 or better) who have completed graduate course work sufficient for a master's degree may, with the written consent of their graduate advisor or of their advisory committee, enroll in courses outside their major and minor areas on a pass-fail basis under conditions stated in a memorandum available from the University Graduate School office. Such courses may not be used to fulfill departmental language or research-skill requirements. Enrollment under this option will be made at the beginning of the semester and may not be changed after the date fixed for dropping and adding of courses.

**Incomplete Grades** The grade of Incomplete may be given only when the completed portion of a student's work is of passing quality. It is the responsibility of the student who has incurred the grade of Incomplete in any course to satisfy the requirements of that course within one calendar year from the date on which the Incomplete is recorded. The student is expected to finish all necessary work in time for the instructor to assign a regular grade before the expiration of this time period. If the student is unable to do so because of circumstances clearly beyond control, it is the student's responsibility to notify the instructor of the course, the graduate advisor, and the dean within the year of such circumstances

and to request an extension of time. According to university policy, every overdue Incomplete will be changed to F after one calendar year.

Both the student and the instructor shall be notified of this change in grade. This change will be made unless the dean has received notice of a regular grade duly assigned before that time or has approved a request for an extension of time. A change of the grade F will be considered only if the request that this be done is accompanied by an explanation of the circumstances involved. Students may not register in a course in which they have a grade of Incomplete.

These regulations do not apply to research and reading courses in which completion of the course work is not usually required at the end of the semester. Such courses are indicated in departmental listings by the sign "R"; incomplete work in those courses will be denoted by R (deferred grade).

**Withdrawal from Course Work** Withdrawals prior to the "Last Day to Drop a Course with an Automatic W" (see official calendar for each semester) are automatically marked W.

According to university regulations, withdrawal after this date is permitted only with the approval of the dean of the student's school for urgent reasons related to the student's health or equivalent distress. In all

such cases, the student must submit a request for late withdrawal to the advisor or to the departmental chairperson. This request must be supported by the instructor of the course, the graduate advisor, and the departmental chairperson and then be forwarded to the dean with an accompanying statement outlining the reasons for the request. If the dean approves the request, the student's mark in the course shall be W if the work completed up to the point of withdrawal is passing; otherwise a grade of F shall be recorded. Failure to complete a course without an authorized withdrawal will result in the grade of F.

**Addition of Course Work** A student who wishes to enroll for additional course work after the first two weeks of a regular semester or after the first week of a summer session may do so if the instructor of the course, the graduate advisor, and the departmental chairperson recommend to the dean that this be done, and if the dean approves such a recommendation.

**Foreign Languages and Research Skills** Individual departments determine whether foreign languages or research skills or both are to be required. Where such requirements exist, students must select the specific language(s) or research skill(s) from those approved by the major department and listed in its statement of departmental requirements. Another language demonstrably useful in the student's research program may be substituted upon special recommendation of the major department and approval by the dean. A student whose native language is not English may, with the permission of the major department, either (1) demonstrate the required proficiency in that native language, or (2) use English to meet foreign language requirements. Proficiency in English may be demonstrated by taking the Test of English as a Foreign Language (TOEFL) examination. (For further information regarding the TOEFL examination, see the section "International Students.") Reading proficiency in a foreign language is normally established in one of three ways:

1. By achieving an appropriate score on an examination administered on the Bloomington campus by the respective language department. Students should contact the language department for details.
2. By completing, with a grade of B (3.0) or better, the reading course 492 (e.g., F492 for French, G492 for German). Students may register for the first course in the

sequence, 491, to prepare for 492; those who feel they have sufficient preparation may register for 492, though they should consult the language advisor first.

3. By receiving, in the cases of Catalan, French, German, Italian, Portuguese, Russian, or Spanish, a grade of B (3.0) or better in a literature or civilization course at Indiana University numbered 300 or higher (exclusive of individual readings and correspondence courses) in which the reading is done in the foreign language.<sup>1</sup> For details consult the respective language departments.

In certain departments, reading proficiency may be demonstrated by presenting an original translation for approval by a faculty examiner designated by the appropriate language department.

**Proficiency in Depth** In certain departments, students have the option of substituting proficiency in depth in one language for reading proficiency in two languages. Proficiency in depth in a language is defined as the ability to read rapidly without the aid of a dictionary and the ability to speak, understand, and write comparable to that expected of students who have successfully completed fourth-year composition and conversation courses. For information about demonstrating proficiency in depth, students should consult the graduate examiner in the foreign language department concerned. Courses taken to fulfill research-skill requirements may, at the discretion of the student's major department, be counted for graduate credit in a student's program of study provided such courses are listed in this bulletin as carrying graduate credit. Each course must be passed with a grade of B (3.0) or higher to satisfy the proficiency requirement.

**Area Certificates** Certificate programs are available in a number of areas; for further information students should see the departmental entries in this bulletin. Such certificates can be pursued only in conjunction with a degree program and cannot be awarded before the completion of all requirements for the degree.

<sup>1</sup> Courses in Russian offered to meet this requirement must be approved by the Department of Slavic Languages and Literatures.



## General Requirements for Advanced Degrees

The following statements regarding degree requirements outline the minima that are acceptable. The student must meet not only the general requirements of the University Graduate School but also the specific requirements of the individual department(s). Requirements are given in this bulletin only for degrees awarded by the University Graduate School. Professional graduate degrees are also available at Indiana University (such as the Master of Business Administration, Master of Science in Education, and Doctor of Music degrees). These professional degrees are administered by the respective schools; information regarding these degrees and the requirements for each may be found in the bulletins of the individual schools.

The University Graduate School recommends that those who intend to continue graduate work toward the Ph.D. degree elect one of the traditional master's degree programs requiring a thesis or a foreign language or both.

**Academic Integrity** Students are expected to adhere to the highest ethical standards in all their course work and research. Individuals violating that code of conduct are subject to disciplinary action; such breaches could lead to expulsion of the student from Indiana University or to rescission of a degree already granted. To acquaint students more fully with the range of issues relating to academic integrity, the University Graduate School has prepared a document entitled *Integrity in Graduate Study*, which, among other topics, deals with plagiarism, fraud, and conflicts of interest. Copies of that document may be obtained from departmental offices or from the office of the University Graduate School, Kirkwood Hall 111. Every student should be familiar with its contents.

### Requirements for Master's Degrees

The number of credit hours required by the University Graduate School for master's degrees varies according to the individual degree (see below for details). However, with the exception of the Dual Master's Program, the requirements for all master's degrees must be completed within five consecutive years.

With the exception of the Master of Arts for Teachers (M.A.T.), a thesis or reading knowledge of a foreign language is normally required for a master's degree (see departmental entries for exceptions). If a thesis is not required, departments are encouraged to substitute some other type of special project that is creative, exploratory, or experimental in

nature. In lieu of the traditional thesis, for example, the department might require seminar papers, presentations, publishable reports, artistic performances, or exhibitions. The thesis or alternative project should be equivalent to no fewer than 3 nor more than 9 hours of graduate credit; such credit should be granted under an appropriate departmental course or independent study number. Departures from traditional thesis

requirements prescribed by the individual departments must be approved by both the department and the dean. If a thesis is submitted, the student must file the original and one copy (both bound) with the University Graduate School. These copies will later be placed in the University Library. At least one additional bound copy must be filed with the major department. The title page must bear the statement: "Submitted to the faculty of the University Graduate School in partial fulfillment of the requirements for the degree Master of \_\_\_\_\_, in the Department<sup>1</sup> of \_\_\_\_\_, Indiana University." At least three members of the faculty shall normally participate in the approval of the thesis and must sign an acceptance page which appears after the title page. The statement, "Accepted by the faculty of the University Graduate School, Indiana University, in partial fulfillment of the requirements for the degree Master of \_\_\_\_\_, should precede the signatures on the acceptance page. Each copy of the thesis is to be accompanied by the student's vita sheet inserted at the end. For details regarding the typing and duplication of theses, see "Preparation of Theses and Dissertations" below.

Three or more faculty members should participate in certification of the student's fulfillment of the requirements for a master's degree. Their participation may take any of several forms, such as administering a final or comprehensive examination, reviewing the candidate's academic record, or evaluating the candidate's thesis or alternative project. In instances where shortcomings are apparent, the student may be required to complete additional course work or assignments. If the master's degree is used to meet part of the requirements to convert a provisional or standard teaching certificate into a professional certificate (which is no longer a life license), the student's degree program must include at least 18 credit hours of graduate work in the major or minor field or both.

<sup>1</sup>Students majoring in programs will use the word "Program"; students majoring in departments outside of the College of Arts and Sciences will use the word "School."

**Master of Arts**  
Thirty (30) credit hours are required for the M.A., all of which may be taken in a single department; at least 20 of these credit hours must be earned in the major field. A minimum of 9 credit hours of course work or at least three courses in the major field (excluding thesis) must be numbered 500 or above.

**Master of Science**  
General requirements for the M.S. are identical with those for the M.A. (see above).<sup>1</sup>

**Master of Fine Arts**  
The M.F.A. degree, which is offered in the Departments of English, Fine Arts, and Theatre and Drama, requires a minimum of 60 credit hours.

**Master of Laws**  
The LL.M. degree is conferred upon those students who complete a minimum of 30 credit hours of academic work in law or in related courses approved by the University Graduate School.

**Master of Arts for Teachers**  
In order to be admitted to this program, students must hold a baccalaureate degree from a regionally accredited institution. The degree should include sufficient hours in each discipline in which students plan to work to enable them to elect courses carrying graduate credit (see departmental entries for details).

Thirty-six (36) credit hours beyond the baccalaureate degree are required, at least 20 of which must be in the major teaching field, with the remainder allocated either to additional work in the major or to one or more minors. Certain interdepartmental programs have specific minor requirements (for details see the individual program statements). Although not specifically required, education may be offered as a minor in any M.A.T. program. Each candidate must possess a teacher's certificate (from Indiana or another state in the United States) by the time the degree is conferred, with the exception of international students, who must be certified by their department. Graduates of Indiana University who do not hold certificates should have their credentials evaluated for teaching certification purposes by either the School of Education or the department in which they are working toward their degree. Students who graduate from institutions outside the state of Indiana and who do not hold a teacher's certificate must send their credentials directly to the Teacher Training and Licensing Commission, State House, Indianapolis, for evaluation; such students may not be admitted into the program, nor may curricula be planned for them, until the state evaluation is a part of the student's official record at Indiana University.

Holders of the B.A. or B.S. degree who wish to secure a secondary school certificate as part of the M.A.T. program may substitute approved courses from the following list for certain undergraduate courses in education required for provisional certification: Education H520, H530, H540, L517, P510, and P516. Education M440 through M480 may also count in some instances (see major department), both toward certification and toward fulfilling M.A.T. requirements. Upon recommendation of the department and approval by the dean, a maximum of 6 credit hours of undergraduate courses taken after completion of the baccalaureate degree may be applied toward the M.A.T. degree.

Course work for the M.A.T. that is used for provisional certification may not also be used for professional certification. Professional certification requires at least 8 credit hours of graduate work in the area chosen for certification. A student must also take 6 credit hours of graduate professional education beyond those graduate education courses substituted above to meet the minimum provisional certification requirements.

M.A.T. degrees are available in most areas represented in the high school curriculum. Interested students should consult the chairperson of the department or the division concerned to discuss programs of study.

**Dual Master's Program** Students who are concurrently enrolled in two departments may qualify for two master's degrees under a provision that allows credit earned to satisfy the major requirements of one department to count as elective credit in a second department. To be eligible for this program, a student must be formally admitted by both departments and by the University Graduate School. All requirements of both departments be met, including passing any departmental examinations and satisfying foreign language/research-skill requirements. If both departments require a thesis, the student may write a single thesis that meets the requirements of both fields. The thesis committee will comprise an equal number of representatives of both departments, and the thesis credit will be split between the two. All course work for the program must be completed within a period of six years.

<sup>1</sup>M.S. students in computer science are currently exempted from the regulation requiring that 9 credit hours of course work or three courses in the major field (exclusive of thesis) be numbered 500 or above. Students in the combined M.S.-M.D. program have seven years in which to complete requirements for the M.S. degree; students in the M.S. program in Geology at Indianapolis have six years in which to complete the requirement.

**Preparation of Theses and Dissertations** Theses and dissertations must be typewritten or written on a word processor using a letter-quality printer. The text may be either one- and-a-half- or double-spaced and should not extend into the one-inch margins required on the three nonbinding sides (one-and-a-half inches required on the binding side). Only minor corrections are acceptable in the final copy; these must be typewritten or corrected on a word processor (handwritten corrections are not acceptable). If more substantial corrections need to be made, the page or pages should be retyped. Page numbers must be consecutive throughout, with Arabic numerals used for the body of the work and Roman numerals for the front matter.

The paper must be watermarked, 100-percent rag bond, in the format 8 1/2 by 11 inches (legal-size paper is not acceptable). Copies may be reproduced using a multilith, offset, or high-quality photocopy process, but mimeograph copies are not acceptable. If photographs are a part of the work, original prints must be included in each copy (photocopy reproductions of photographs are not acceptable). Any deviations from the above guidelines must be approved in advance by the dean of the University Graduate School. Additional information regarding the typing and duplication of theses and dissertations may be found in *A Guide to the Preparation of Theses and Dissertations*, which is available from the University Graduate School and the IUPUI Graduate Office. Students are strongly encouraged to get a copy of this Guide.

### Requirements for the Degree Doctor of Philosophy

The Ph.D. degree requires completion of at least 90 credit hours of an advanced course of study. The degree is awarded in recognition of a candidate's command of a broad field of knowledge and accomplishment in that field through an original contribution of meaningful knowledge and ideas.

**Major Subject** The student will select a major subject from the departments and programs listed in this bulletin. The major department or program is responsible for monitoring the student's progress toward the degree and for making recommendations to the University Graduate School regarding the nomination to candidacy, the appointment of a research committee, the defense of the dissertation, and the conferring of the degree.

<sup>1</sup> As an exception to this rule, Indiana University doctoral students may take a minor in Purdue University graduate degree programs at Indiana University-Purdue University Indianapolis (IUPUI).

**Minor Subjects** The student will select at least one minor subject. A minor provides additional breadth and depth to the individual's program. It must be taken outside the major department from among those areas of study listed in this bulletin or in a specifically approved inter- or intra-departmental area (see departmental entries). The determination of the minimum requirements and examination procedure (if any) for the minor is entirely at the discretion of the minor department or program. In certain cases, special interdepartmental minors (12 or more credit hours of work in two or more departments) or minors not specifically listed in this bulletin may be approved by the dean upon recommendation of the student's advisory committee provided such approval is requested prior to pursuit of any of the proposed courses of study. Examination procedures (if any) or other requirements (for example, stipulation of the minimum grades acceptable) should also be specified in the proposal to the dean.

**Double Major** Students may pursue two majors in two departments simultaneously, if so recommended by each department and approved by the dean.

Two general requirements pertain to double majors:

(1) there must be a substantive relationship between the two major fields, particularly with respect to the topic of the student's dissertation; and (2) all degree requirements for each major must be fulfilled, including the passing of two sets of qualifying examinations. In some instances it may be possible to count the same work toward requirements in both departments (e.g., a specific foreign language acceptable in both programs). The exact courses of study and examinations required are to be determined by members of the research committee from each of the majors. Any area of substantial overlap in the two courses of study or in the examinations is to be negotiated by the committee as a whole and approved by the dean.

There must be at least four faculty members on both the advisory and research committees for a double major, with two from each of the majors. If other minor fields are involved, a representative must also be present from each of these.

A total of 90 credit hours is required for the Ph.D. degree with a double major. While judicious program planning may permit completion of some double majors within the 90 credit hours, other students may accrue additional hours due to the programs of study required for each major. In recognition of such a possibility, students in the program will be allowed one additional year before they must take the qualifying examinations. For a complete set of rules relating to double majors,

students should consult the University Graduate School office.

**Combined Degree Program** The School of Medicine, the School of Dentistry, and the University Graduate School offer selected students an opportunity to pursue the M.S. or Ph.D. degrees, concurrently or sequentially, with a coordinated and flexible program leading also to the M.D. or D.D.S. degree. Combined degree programs are available in anatomy, biochemistry, dental science, medical biophysics, medical genetics, medical neurobiology, microbiology and immunology, pathology, pharmacology, physiology, and toxicology. At Bloomington, the combined degree is available not only in these basic medical, biological, and physical sciences but also in the humanities and social studies. The combined degree program is designed to meet the student's particular objectives and needs and is planned by the student and an advisory committee of faculty representing the School of Medicine or the School of Dentistry and the respective department or program.

Entry into a combined degree program requires approval of both the School of Medicine or the School of Dentistry and the University Graduate School. Two applications are necessary: one to the Indiana University School of Medicine or of Dentistry, and another to the Indiana University University Graduate School via the sponsoring department or program.

Indiana University School of Medicine has established an Indiana Medical Scientist Program for fellowship and tuition support of students in the combined M.D.-Ph.D. program. A faculty committee nominates students for the program based on commitment to a career as a physician scientist, research experience, undergraduate grade point average, and MCAT scores. A flexible entry program allows students up to one year to identify a research laboratory and degree program. Information can be obtained from the Graduate Division of the School of Medicine.

Completion of the program entails meeting all requirements for both degrees. Many nonmedical courses of the curriculum of the School of Medicine satisfy course requirements for both degrees, and credit given for graduate study may fulfill some of the School of Medicine requirements. The combined degrees may thus be acquired in less time than would be required if both were taken separately.

<sup>1</sup>For students in combined M.D.-Ph.D. programs, all course work offered in partial fulfillment of degree requirements of the Ph.D. must have been completed within nine consecutive calendar years preceding the passing of the qualifying examination; for students in Ph.D. programs in music, within 10 consecutive years.

As well as fulfilling requirements for the M.D. program, a minimum of 30 credit hours of graduate study is required for the combined M.S./M.D. degree. Of these, 10 credit hours may be transferred from exclusively School of Medicine courses with the approval of the student's advisory committee and the University Graduate School. Similarly, a minimum of 90 credit hours of graduate study is required for the combined Ph.D./M.D. degree. A maximum of 30 credit hours of exclusively School of Medicine courses may count toward the Ph.D. degree.

Within the University Graduate School, combined degrees are available in American Studies and Cognitive Science. Students in these programs must be accepted both by a Ph.D.-granting department and by either the American studies or the cognitive science program, and must satisfy the requirements for both chosen fields. Requirements are the same as those for the Ph.D. degree with a dual major (see above).

**Advisory Committee** The student's major department or program shall assign the student to an advisory committee no later than one year after admission to the Ph.D. program. The advisory committee must include at least two members from the major area and one from another. At least two members of the advisory committee must be members of the graduate faculty. The names of faculty members nominated to serve on the advisory committee shall be forwarded to the student's school or college for approval no later than one year after the student has been admitted to the Ph.D. program. The advisory committee shall approve the student's program of study and counsel the student until the passing of the qualifying examination.

**Qualifying Examination** This examination, given at such time and in such manner as the major department shall determine, shall be written, although additional oral examinations may be required. The qualifying examination shall cover the major subjects and may, at the discretion of the minor department(s) or the interdepartmental committee, cover the minor subjects as well.

Normally, the qualifying examination is taken after the student has completed all course work for the Ph.D. All such work offered in partial fulfillment of degree requirements must either have been completed within seven consecutive calendar years of the passing of the qualifying examination or be reevaluated according to procedures outlined in this bulletin (see p. 7).<sup>1</sup> Reading proficiency required in one or more foreign languages must also have been demonstrated, whether by course work or examination, no more than

seven years before the passing of the qualifying examination. In the case of an examination of more than one part, the date of passing is regarded as the date of passing the final portion of the examination, typically the oral examination. Students who fail the qualifying examination are normally allowed to retake it only once. The qualifying examination must be passed at least eight months before the date the degree is awarded.

**Admission to Candidacy** Following the passing of the qualifying examination and the completion of all course work and departmental language or research-skill requirements (if any), the student's advisory committee will submit a Nomination to Candidacy Form to the University Graduate School. Upon approval of the dean, the student will be admitted to candidacy and awarded a Certificate of Candidacy. The date of successful completion of the qualifying examinations (not the date of final approval of candidacy) is the one used in determining the seven-year periods for currency of courses (see p. 7) and completion of the dissertation (see p. 15).

**Continuing Enrollment** Students who have passed the qualifying examination must enroll each semester (excluding summer sessions) for any remaining required course work or dissertation credits. Once such students have accumulated 90 credit hours in completed course work and deferred dissertation credits, they must enroll for a minimum of 1 hour of graduate credit each semester until the degree is completed. Failure to meet this requirement will automatically terminate the student's enrollment in the degree program. Students who have completed 90 credit hours and all requirements for the Ph.D. are eligible to enroll in G901 for a flat fee of \$150 per semester. Enrollment in G901 is limited to a total of six semesters. (For students not on campus, enrollment may be completed by mail.)

A candidate who will be graduated in June, July, or August of any year must enroll in a minimum of 1 hour of credit as described above in either the current or the immediately preceding summer session.

**Dissertation** The culmination of the Ph.D. program is the writing of the dissertation, which is required of all doctoral students. The dissertation must be an original contribution to knowledge and of high scholarly merit. The candidate's research must reveal critical ability and powers of imagination and synthesis. The dissertation is written under the supervision of a research director and a research committee, as described below. Although work published by the student may be incorporated into the

dissertation, a collection of unrelated published papers, alone, is not acceptable. There must be a logical connection between all components of the dissertation, and these must be integrated in a rational and coherent fashion. It is the responsibility of the student's research committee to determine the kind and amount of published materials which may be included in a dissertation.

**Research Committee** To initiate research for the dissertation, the student chooses a professor who will agree to direct the dissertation. The department shall then recommend to the dean for approval a research committee composed of the chosen director (who will also normally serve as chairperson of the committee), two or more additional faculty members from the major department, and a representative of each minor. The committee should be selected from the members of the graduate faculty who are best qualified to assist the student in conducting the research for the dissertation. In the event that the dissertation research does not involve the area(s) of the minor(s)-whether outside or inside the department-the major department may request, with the consent of the minor-field representative(s), the substitution of a representative or of representatives from some other field(s) more appropriate to the topic of the dissertation. The committee has the responsibility of supervising the research, reading the dissertation, and conducting the final examination.

All chairpersons of research committees and directors of research must be full members of the graduate faculty. If, however, special expertise in an area is held by an associate or an affiliate member which is not held by a full member, the departmental chairperson may request that the dean approve such an individual as research committee chairperson or director of the dissertation research.

All members of a research committee must be members of the graduate faculty. At least half of the members of the committee must be full members of the graduate faculty; others may be associate or affiliate members.

After consultation with and approval by the dissertation director and research committee, the student will submit to the University Graduate School a one- or two-page prospectus of the dissertation research. If the proposed research involves human subjects, animals, biohazards, or radiation, approval from the appropriate university committee must also be obtained. The membership of the research committee and the dissertation prospectus must be approved by the University Graduate School at least six months before the defense of the dissertation.

**Defense of the Dissertation** When the dissertation has been completed, the student should submit an unbound copy to each member of the research committee as the initial step in scheduling the defense of the dissertation. All members of the research committee should read the dissertation in its entirety before attending the defense. At this stage both the student and the faculty members must extend certain courtesies to each other. It is the responsibility of the student to give faculty members sufficient time to read the dissertation without making unreasonable requests of them based upon University Graduate School time limitations, immediate job possibilities, contract renewal, or some other reason. Similarly, a faculty member should not keep a student's work for inordinate periods of time because of the press of other duties. Once a faculty member assumes membership on a research committee, it becomes another part of his or her teaching assignment, comparable to conducting regularly scheduled classes.

After the committee members have read the dissertation, there should be direct communication (either in writing or orally) between the research committee chairperson and the other committee members about its readiness for defense. Readiness for defense, however, is not tantamount to acceptance of the dissertation; it means that the committee is ready to make a decision. The decision to hold a doctoral defense, moreover, is not entirely up to the research committee. If a student insists upon the right to a defense before the committee believes the dissertation is ready, that student does have the right to due process (i.e., to an oral defense) but exercises it at some risk.

If the decision to proceed with the defense of the dissertation is made against the judgment of one or more members of the committee, or if one or more members of the committee disapprove of parts or all of the dissertation, the committee member(s) should not resign from the committee in order to avoid frustration or collegial confrontation. The University Graduate School urges that such committee members, after ample communication with both the student and the chairperson, remain on the committee and thus prevent the nomination of a committee that might eventually accept what could be unsatisfactory work. Such a committee member could agree that a dissertation is ready for defense but should not be passed (or should not be passed without substantial modification). There will, of course, be situations in which the membership of research committees should or must be

changed (e.g., turnover of faculty), but changes because of modifications in the dissertation topic or some equally plausible reason should be made early in the writing of the dissertation.

Thirty days prior to the scheduled defense of the dissertation, the candidate must submit to the University Graduate School a one-page announcement of the final examination. This announcement must follow a format available in the University Graduate School and be typed with a good black ribbon on white paper. The announcement contains, among other things, a summary of the dissertation (not less than 150 words) which is informative and contains a brief statement of the principal results and conclusions. The announcement must bear the signature of the research committee chairperson. If the candidate has published any scholarly articles relevant to the topic of the dissertation, bibliographical references should be included in the summary. A copy of such announcements will be sent to any member of the graduate faculty upon request.

Once the final examination has been scheduled, the announced time and place of the defense must not be changed without the approval of the dean. Any member of the graduate faculty who wishes to attend the final examination is encouraged to do so; if it is requested, however, that the faculty member notify the chairperson of the research committee in advance so that space can be arranged. With the approval of the research committee and the consent of the candidate, other graduate students may attend the defense of the dissertation; normally such students will act as observers, not as participants.

At the end of the oral examination, the research committee must vote upon the outcome of the examination. Four options are available to the committee: (1) pass, (2) conditional pass, (3) deferred decision, and (4) failure. If the decision to pass is unanimous, the dissertation is approved once it is received by the University Graduate School along with an acceptance page signed by the members of the research committee. If the decision is not unanimous, majority and minority reports should be submitted to the dean who, within 10 working days, will investigate and consult with the research committee. Upon completion of the dean's investigation and consultation, another meeting of the research committee will be held, and if a majority votes to pass, the dissertation is approved when it is received by the University Graduate School with an acceptance page signed by a majority of the members of the research committee.

The student must have received acceptance of his or her dissertation and must submit a copy to the University Graduate School within seven years after passing the qualifying examination. Failure to meet this requirement will result in the termination of candidacy and of the student's enrollment in the degree program. Any student whose candidacy lapses will be required to apply to the University Graduate School for reinstatement before further work toward the degree may formally be done. To be reinstated to candidacy in the University Graduate School, the student must: (1) obtain the permission of the departmental chairperson; (2) fulfill the departmental requirements in effect at the time of the application for reinstatement; (3) pass the current Ph.D. qualifying examination or its equivalent (defined in advance)<sup>1</sup>; and (4) request reinstatement to candidacy from the dean. Such reinstatement, if granted, will be valid for a period of three years, during which time the candidate must enroll each semester for a minimum of one credit.

**Submission of the Dissertation** Following acceptance by the research committee, the dissertation is submitted to the University Graduate School. Each dissertation must include a title page bearing the statement: "Submitted to the faculty of the University Graduate School in partial fulfillment of the requirements for the degree Doctor of Philosophy in the Department of \_\_\_\_\_, Indiana University." The date of this page should be the month and year in which the degree will be granted. Following the title page there must be an acceptance page with the statement: "Accepted by the faculty of the University Graduate School, Indiana University, in partial fulfillment of the requirements for the degree Doctor of Philosophy"; the acceptance page must be signed by members of the research committee. For guidelines regarding the typing and duplication of dissertations, see above under "Preparation of Theses and Dissertations."

The original (unbound, in a box suitable for mailing) and one copy (bound) of the dissertation must be filed with the University Graduate School, and one copy (bound) must be filed with the major department. (The copies filed with the University Graduate School will later be placed in the University Library.)

<sup>1</sup> A department must define in advance specifically what is meant if an "equivalent" examination is to be used, and that definition must be approved by the dean.

<sup>2</sup> Students majoring in programs will use the word "Program"; students majoring in departments outside of the College of Arts and Sciences will use the word "School."

The candidate must also submit to the University Graduate School a 350-word abstract of the dissertation that has been approved by the research committee. This abstract will appear in *Dissertation Abstracts International*, published by University Microfilms, Ann Arbor, Michigan. The original copy of the final, approved version of the candidate's dissertation will be submitted on loan to University Microfilms for complete microfilming; the resulting copy or copies to be available for purchase by all who request them. Copyright may be secured; see the University Graduate School for details. The original copy will be returned by University Microfilms to the library, where it will be bound. The required fee for publishing the abstract and for microfilming the dissertation is currently \$55.

## Student Financial Aid

### Fellowships

A number of fellowships are available to students enrolled in the University Graduate School; among them are University Graduate School fellowships, fee scholarships, and various privately and federally funded awards. Students should apply for these fellowships directly to the major department. Information on and preliminary application materials for the National Science Foundation Graduate Fellowships may be obtained from the University Graduate School, Kirkwood Hall 111, Indiana University, Bloomington, IN 47405 (telephone: (812) 855-8854), or the Fellowship Office, National Research Council, 2101 Constitution Avenue N.W., Washington, DC 20418. In all cases, early application is advisable. It should be noted that all such award holders are required to devote full time to their studies.

Indiana University also offers several fellowship and support programs for students underrepresented in graduate education (African American, Hispanic/Latino, Native American, Puerto Rican). These include the Chancellor's Minority Fellowship, the Dean's Minority Fellowship, the Educational Opportunity Fellowship, and the Graduate Minority Fellowship. For further information contact the Graduate Minority Fellowship Office, 803 E. Eighth St., (812) 855-4005.

### The GradGrants Center—Bloomington

The GradGrants Center-Bloomington (GGC) is a free service available to all enrolled graduate students on all campuses of Indiana University. The GGC provides information and training to assist graduate students in their search for funding to further research and

graduate study at Indiana University. The GGC's services include funding-database searches, workshops, one-on-one proposal-writing consultation, agency files, a library of funding-source and proposal-writing books, a bimonthly newsletter on World Wide Web, and an electronic mailing list used to inform patrons of upcoming workshops, grant deadlines, and relevant news.

The GradGrants Center—Bloomington is located in the Main Library, Room 1052E (telephone: (812) 855-5281, e-mail: [gradgrnt@indiana.edu](mailto:gradgrnt@indiana.edu), Web site: <http://www.indiana.edu/~gradgrnt/index.html>). The Indianapolis campus has a center to provide services for IUPUI graduate students located in the Union Building, Room 518; telephone: (317) 274-4023.

### Doctoral Student Grants-in-Aid of Research

A program of doctoral student grants-in-aid of research is designed to assist doctoral students in funding unusual expenses arising from the research required for the dissertation. Examples of such expenses include travel to specialized libraries or research sites, payment of subjects or computer programmers, and purchases of specialized materials or equipment that cannot be provided by the major department. The maximum amount of aid is \$1,000. Awards are made two times a year; the deadlines for the receipt by the University Graduate School of the completed applications are March 1 and October 1. Application forms are available through the University Graduate School.

### Associate Instructors, Graduate Assistantships, and Research Assistantships

A large number of associate instructors, graduate assistantships, and research assistantships are available in departments and schools offering degrees through the University Graduate School. Some of these positions are accompanied by fee scholarships, which defray the cost of tuition and fees with the exception of special fees and those fees dedicated to debt retirement on physical facilities; these dedicated fees were \$23.65 per credit hour per semester in 1999-2000. Application for such positions should be made to the department or school in which the student wishes to work. Early application is advisable.

### Resident Assistantships

Positions are also available on the Bloomington campus for single graduate students as resident assistants in the university's residence halls. Selection of

graduate students for these positions is based upon the applicant's academic record, previous background and experience, potential for work with undergraduate students, and personal qualifications necessary to relate successfully with other people. As a member of the Dean of Students Division, the resident assistant serves as an advisor to a living unit of 50 students in one of the university residence centers. These positions provide room, board, and a cash stipend; course work is limited to a maximum of 12 credit hours each semester. For further information write to the Director, Department of Residence Life, 801 N. Jordan Avenue, Bloomington, IN 47405 (telephone: (812) 855-1764).

### Other Student Financial Assistance

Long-term loans and Graduate Work-Study are available through the Office of Student Financial Assistance, Franklin Hall 208, Indiana University, Bloomington, IN 47405 (telephone: (812) 855-0321). More information and application requirements are on the Indiana University Web site.

For information about other campuses, contact the Financial Aid Services, Kettler Hall 109, Fort Wayne, IN 46805 (telephone: (219) 481-6820); the Office of Student Financial Aid, Cavanaugh Hall 103, 425 University Blvd., Indianapolis, IN 46202 (telephone: (317) 274-4162); the Office of Scholarships and Financial Aid, Administration Building 157, P.O. Box 7111, 1700 Mishawaka Avenue, South Bend, IN 46634 (telephone: (219) 237-4357); or the Office of Student Financial Assistance, Library Building 100, New Albany, IN 47150 (telephone: (812) 941-2246).

### Degree Conferral

The University Graduate School will recommend the candidate to the Board of Trustees for the degree *only* upon completion of all the requirements stated previously. Degrees are awarded on the last day of each month of the year.

For all students seeking a master's degree, an application for the degree must be filed with the University Graduate School at least 60 days before the date anticipated for degree conferral. All degree requirements must be completed at least 30 days prior to the date of expected degree conferral, including submission to the University Graduate School of the bound copies of the master's thesis (if required for degree).

For doctoral students, submission to the University Graduate School of the copies of the completed dissertation and abstract as described under "Submission of the Dissertation" constitutes an application for conferral of the Ph.D. degree. The dissertation

in its final form and the abstract must be submitted to the University Graduate School at least 30 days before the expected date of degree conferral. Doctoral students are reminded (a) that the 30-day announcement deadline prior to the defense of the dissertation and the 30-day deadline prior to degree conferral are *nonoverlapping time periods*, and (b) that research committees frequently require revisions and corrections after the defense of the dissertation and that these revisions must be made before the dissertation is ready for binding and submission to the University Graduate School.

**Commencement** All graduate students are encouraged to participate in the Commencement ceremonies. The solemn yet colorful academic pageantry can provide a fitting culmination to a period of intense study and work. In addition, all Ph.D. candidates are now hooded by their professors. Procedures for participating in Commencement may be obtained from the University Graduate School.

## IU Campuses

When you become a student at Indiana University, you join an academic community internationally known for the excellence and diversity of its programs. Indiana University is one of the nation's oldest and largest state universities, with eight campuses serving 94,000 students. IU also offers courses through facilities at Columbus, Elkhart, and many other sites.

### Indiana University Campuses

Indiana University Bloomington  
Indiana University—Purdue University Indianapolis  
Indiana University East (Richmond)  
Fort Wayne  
Indiana University Kokomo  
Indiana University Northwest (Gary)  
Indiana University South Bend  
Indiana University Southeast (New Albany)  
Indiana University-Purdue University Columbus

## History of the University Graduate School

In 1908, upon the insistence of faculty members of the College of Arts and Sciences, the university placed its graduate courses into a newly formed unit, the Graduate School, and named biology professor Carl Eigenmann its first dean (1908-27). Four years later, Indiana University gave its first Ph.D. degree, although Masters of Arts degrees had been conferred in cursu upon graduates of Indiana University in the 19th century. Today, the Graduate School awards approximately 300 Ph.D.'s and some 500 master's degrees annually. In addition to the Ph.D., the Graduate School at Indiana University has sole jurisdiction over the Master of Arts, the Master of Science, the Master of Arts for Teachers, the Master of Laws, and the Master of Fine Arts degrees wherever they are offered in the university system. The professional schools have jurisdiction over other postbaccalaureate degrees and, of course, provide the instruction for Graduate School degrees in their disciplines. As a university-wide office, the Graduate School grants degrees at five of the university's eight campuses: Bloomington, Fort Wayne, Indianapolis, South Bend, and Southeast.

In the Graduate School's early years, during the presidency of William Lowe Bryan, the university concentrated on undergraduate instruction. When Herman Wells became president in 1938, graduate education at Indiana began to thrive under the deanship of Fernandes Payne, another biologist (1927-47). With the strong support of President Wells and under the guidance of Dean Payne's successors, English professor and folklorist Stith Thompson (1947-50) and botanist Ralph Cleland (1950-58), the Graduate School grew rapidly during the post-World War II years. Twenty-five graduate fellowships were created during the war years.

John W. Ashton, the second English professor to occupy the Graduate School deanship (1958-65), had served as dean of the College of Arts and Sciences before taking over the new Graduate School offices in Kirkwood Hall. During his tenure in the college and in the Graduate School, Dean Ashton gave strong support to interdisciplinary programs and emerging disciplines such as linguistics, comparative literature, East European studies, folklore, School of Letters, and Uralic and Altaic studies. By 1960, Bernard Berelson's book *Graduate Education in the United States* ranked Indiana University 12th of 92 institutions of higher education. Allan Carrter's *Assessment of Quality in Graduate Education* (1966) also reflected the increased stature of the

university's graduate programs. In that work, four Graduate School programs ranked among the top 10 of their kind in the nation, and 20 programs emerged among the top 20.

The appointment of Harrison Shull, a chemist (1965-72), marked an outstanding increase in the research and graduate development activities of the Graduate School. When Dean Shull left the Graduate School to become the vice chancellor for research and development, he took many of these activities with him, leaving the Graduate School to be primarily concerned with graduate education. As the university underwent reorganization under the leadership of President John W. Ryan, two temporary deans, Harry Yamaguchi, a psychologist (1972-77), and James Holland, the third biologist to head the Graduate School (1977-78), presided over an office that, without a research and development component, was able to focus its attention on the quality of graduate education.

From 1978 until 1987, the historian Leo F. Solt was dean. Under his leadership, the Graduate School became a university-wide entity, encouraging excellence in graduate education throughout the state of Indiana by systematically reviewing all existing programs and by implementing new graduate programs on the Indianapolis and South Bend campuses, as well as on the Bloomington campus. Fellowship funds were increased, and more minority students were recruited; the Graduate School was computerized to improve record keeping and monitoring of students; additional steps were taken to improve the quality of Ph.D. dissertations; and participation by graduate students in the administrative and policy-making activity of the Graduate School was encouraged.

Thomas Noblitt, a music historian, was acting dean from 1987 until 1989. During his tenure, new graduate programs were approved for the Northwest and Fort Wayne campuses, and offerings at Bloomington and Indianapolis were expanded. In August 1989, George Walker, a physicist, became associate vice president (and later vice president) for research and dean of the University Graduate School, thus reuniting two offices that had been separated for nearly 20 years. Under his direction, the University Graduate School was reorganized to allow departments and schools to assume a larger part of the responsibility for the monitoring of graduate students' progress toward their degrees. Increased emphasis on financial support for graduate education has led to substantial additions to the fellowship budget, new initiatives were undertaken to encourage research on all campuses of the university, and the Graduate Council was significantly expanded. Dean Walker has also

established a Preparing Future Faculty program to prepare graduate students for the full range of professional responsibilities they will face.

In 1951, the faculty elected nine of their number to a Graduate Council. Today, the Graduate Council has 30 voting members elected by the University Graduate School faculty. That faculty of about 2,200 members comes from all campuses of the University. Since 1980, a University Graduate School faculty committee has selected new members of the graduate faculty upon nomination by departmental chairpersons or by professional school deans, subject to the approval of the dean of the University Graduate School and, in the case of full members, the Board of Trustees. The names of all IU faculty members who hold appointments as full or associate members of the Graduate Faculty are listed under the names of the program(s) with which they are associated. An asterisk (\*) following a name indicates that the individual is an associate member of the Graduate Faculty.

Members of the University Graduate School faculty ultimately determine standards of admission, set the general requirements for degrees, pass upon the specific requirements of programs, approve courses for graduate credit, and certify candidates for degrees. These functions are executed by the Graduate Council and the dean and administrative staff. More specifically, the university Graduate School faculty serve on advisory and research committees for doctoral students, direct master's theses and doctoral dissertations, and elect members of the Graduate Council. The Graduate Council, which represents professional as well as arts and sciences departments, meets monthly during the academic year. In addition to the functions delegated to it by the faculty of the University Graduate School, it serves as an executive advisory body to the dean and administrative staff on policy matters. It reviews the findings of the dean's staff in connection with the program reviews mandated by the Indiana Higher Education Commission; it receives the reports of the school's standing faculty committees (i.e. Curriculum, Awards, Graduate Faculty Membership, and Graduate Initiatives); it acts upon recommendations for changes in admission, the curriculum, degree requirements, and procedures for the administration of student programs; it receives and acts upon the recommendations of ad hoc committees appointed by the dean; it gives advice on ways to improve the quality of graduate work; and it seeks ways to coordinate the programs of the University Graduate School with other graduate programs in the university.

The Executive Committee of the Graduate Student Organization articulates graduate student reaction to possible changes in all aspects of the University Graduate School program. Appointed by the dean, its members are a subset of the larger Graduate Student Organization and represent particular constituencies that mirror those the Graduate Council members represent. It also selects two of its members to serve as nonvoting members of the Graduate Council. Executive Committee members and the dean determine the agenda for the monthly meetings. Whenever proposed changes in graduate education come before the Graduate Council, the dean seeks the advice and opinions of the Executive Committee. Members of the Executive Committee give their views on the reports of various ad hoc University Graduate School committees, including any proposed changes in the Ph.D. requirements. The heads of departmental graduate student organizations form the Executive Committee's parent body, the Graduate Student Organization, which meets monthly with the dean to discuss any University Graduate School issue the students wish to address. Both student groups, together with the Graduate Council, the University Graduate School's standing and ad hoc committees, and the Graduate Faculty assist the dean and administrative staff in maintaining the highest quality of graduate education at Indiana University.

## Special Opportunities

### Foreign Language Instruction

Indiana University offers instruction in an exceedingly wide variety of foreign languages. Formal courses or tutorials have been offered in recent years on the Bloomington campus in the following:

Albanian	Mordvin
American Sign Language	Náhuatl
Arabic	Navajo
Azeri	Old Church Slavonic
Bambara	Old English
Bulgarian	Old High German
Buryat	Old Icelandic
Cantonese	Old Irish
Catalan	Old Saxon
Chaghatay	Old Tibetan
Chechen	Pahlavi
Chichewa	Persian
Chinese (Mandarin)	Portuguese
Chuvash	Romanian
Coptic	Russian
Croatian	Sami (Lappish)
Czech	Sanskrit
Dutch	Serbian
English	Shona
Estonian	Sioux (Lakota)
Evenki	Slovak
Finnish	Slovene
French	Sogdian
Georgian	Spanish
German	Swahili
Gothic	Syriac
Greek (classical and modern)	Tibetan
Haitian Creole	Turkish (Ottoman and modern)
Hausa	Turkmen
Hebrew (Biblical and modern)	Twi
Hindi	Ukrainian
Hungarian	Uyghur
Igbo	Uzbek
Italian	Welsh
Japanese	West African Pidgin English
Kazak	Wolof
Kirghiz	Xhosa
Korean	Yakut
Lakota (Sioux)	Yiddish
Latin	Zapotec
Livonian	Zulu
Manchu	
Mari (Cheremis)	
Middle High German	
Mongolian (and Classical Mongolian)	

### Preparing Future Faculty

A number of graduate programs have established Preparing Future Faculty programs which are designed to introduce graduate students to the full range of professional responsibilities in research, teaching, and service they will encounter in more advanced courses in pedagogy, the opportunity to work closely with teaching mentors and to construct teaching portfolios, workshops on specialized topics, and expanded teaching possibilities, often in cooperation with other campuses of Indiana University or other institutions. For information about these programs contact the individual departments.

### University Information Technology Services

Students, faculty, and staff at Indiana University enjoy one of the richest information technology (IT) environments in the nation. Consistently ranked as one of America's "most wired" universities, IU is recognized as a leader and innovator in information technology.

University Information Technology Services (UITS), operating under the auspices of the Office of the Vice President for Information Technology (OVPIIT), provides state-of-the-art hardware, software, and technical support, as well as maintenance and support for the campus telephone system. UITS also develops and maintains the data systems behind student financial and information services, registration, payroll and purchasing, the Indiana Memorial Union hotel, athletic ticketing, and traffic systems. UITS has offices at 2711 E. Tenth Street (Wrubel Computing Center), several other Bloomington campus locations, and at IUPUI.

The centerpiece of UITS research computing is an IBM RS/6000, one of the largest computer systems in the region, providing IU researchers with a venue for powerful parallel applications as well as extremely fast execution of statistical and mathematical software. Other research resources include a Compaq Parallel PC Cluster, containing 32 dual-processor PCs, and a 64-processor SGI Origin2000. Researchers at IU also have easy access to the extremely large Origin2000 systems at NCSA.

The focus of general purpose and instructional computing is the Steel cluster, a group of Sun Systems that appears to the user as a single resource. Steel is available to any member of the university community, and is popular among undergraduate Unix users.

IU's massive data storage system, one of the most advanced at any institution, manages terabytes of data, and provides researchers with flexible, high performance, high-capacity resources for data management. Data visualization is another area of expertise at IU. The UITS advanced Visualization Laboratory maintains a CAVE and an Immersadesk, each of which provides for 3-D viewing and exploration of data and virtual reality environments.

IU provides excellent network connectivity in support of high performance networking applications. IU is a founding member of Internet2 and the lead US institution in the TransPAC connection between the vBNS and the Asia Pacific Advanced Network. IU also runs the Network Operations Center for the Abilene network. For further information about UITS research resources, see <http://www.indiana.edu/~uits/rac/>.

Hundreds of computing workstations in over 40 Student Technology Centers (STCs) offer IU students a rich array of up-to-date hardware, software, printers, and plotters. To meet the needs of a diverse student population, the STCs provide a variety of hardware platforms and operating systems. For details, see <http://www.indiana.edu/~stcweb/>.

License agreements with major software vendors (Microsoft, Corel, Norton, and others) support personal computing by providing widely-used software for IU students, faculty, and staff at no or low cost, while hundreds of high-speed modems allow remote connections to the IU network.

The UITS Support Center (IMU M084, (812) 855-6789, [ithelp@indiana.edu](mailto:ithelp@indiana.edu)) serves as the IUB campus hub for computing help. The Support Center's staff of qualified, knowledgeable consultants provide walk-in, telephone, and e-mail consulting on general and specialized information technology topics. The Support Center's "IT Help Online" (<http://ithelp.indiana.edu/>) is IU's 24-hour computing consultant, providing links to computing manuals and classes, maps of computing locations, notices about computer outages & upgrades, and information about computing accounts. The star feature of IT Help Online is the highly-acclaimed Knowledge Base (<http://kb.indiana.edu/>), a database of over 6,000 answers to questions about computing at IU.

UITS offers two types of hands-on, one-time computing classes: STEPS classes, which are free to IU students, and PROSTEPS classes, which are offered for a nominal fee to everyone. For the current schedule, visit <http://tuep.iu.edu/>.

The IT Policy Office (<http://www.itpo.iu.edu/>) oversees the appropriate and safe use of information technologies at IU.

To stay informed about the latest in information technology, visit the "UITs News & Information" Web site at <http://www.indiana.edu/~uits/news/>.

For a quick guide to the IT services at IU, pick up a copy of "Go for IT!" at the UITs Support Center or read it online at <http://www.indiana.edu/~uitspubs/goforit/>. Or visit the UITs home page at <http://www.indiana.edu/~uits/>.

## African Studies

College of Arts and Sciences  
Bloomington

Departmental e-mail: [afirst@indiana.edu](mailto:afirst@indiana.edu)

Departmental URL:  
<http://www.indiana.edu/~afirst>

### Graduate Faculty

Rudy Professor Emeritus Roy Sieber (Fine Arts)

**Professors** Salih Alkoma (Emeritus, Near Eastern Languages and Cultures), Robert Amove (Education), Harbans Bhola (Education), George Brooks (History), William Cohen (History), Hasan El-Shamy (Folklore, Near Eastern Languages and Cultures), Paula Girshick (Anthropology), Eileen Julien (Comparative Literature), Phyllis Martin (History), Heitor Martins (Emeritus, Spanish and Portuguese), Portia Maultsby (African American Studies), Patrick McNaughton (Fine Arts), Emilio Moran (Anthropology), Paul Newman (Linguistics), Christine Ogan (Journalism), Patrick O'Meara (Political Science, Public and Environmental Affairs), Robert F. Port (Computer Science, Linguistics), Darlene Sadlier (Spanish and Portuguese), Jeanne Sept (Anthropology), Ruth Stone (Folklore), Nicholas Toth (Anthropology), Albert Wertheim (English), William Wiggins Jr. (African American Studies, Folklore), Richard Wilk (Anthropology)

**Associate Professors** Akwashi B. Assensoh (Afro-American), Robert Boine (Linguistics), Trevor Brown (Journalism), Bonnie Brownlee\* (Journalism), Mellonee Burnum (Afro-American Studies), Claude Clegg (History), Kathryn Firmin-Sellers\* (Political Science), Michael Gasser (Computer Science), John H. Hanson\* (History), Kevin Hunt (Anthropology), John W. Johnson (Folklore), Patrick Munson (Anthropology), Martha Nyikos (Education), Samuel Gyasi Obeng (Linguistics), Kathy Schick (Anthropology), Beverly Stoeltje (Folklore), Richard Stryker (Political Science), Timothy Wiles (English)

**Assistant Professors** Gracia Clark\* (Anthropology), Clark Gibson\* (Political Science)

**Academic Advising** Woodburn Hall 221, (812) 855-6825

The field of African studies at Indiana University focuses primarily on Africa south of the Sahara. Attention is given, however, to developments and events farther north that have significance for other areas of the continent. The program is designed to give

students a broad knowledge of the art, ethnography, folklore, history, economic development, languages, literature, music, and politics of this region. Concern is also taken to prepare graduate students who will specialize in this region as teachers, foreign service personnel, museum professionals, journalists, or business professionals.

### Ph.D. Minor in African Studies

The African Studies program offers the Ph.D. minor to students in the following fields: anthropology, archaeology, comparative literature, economics, English, education, fine arts, folklore, French, geography, history, instructional systems technology, journalism, law, linguistics, political science, public and environmental affairs, sociology, and Spanish and Portuguese.

Students electing African studies as a minor should report to the program office (Woodburn Hall 221) as soon as possible after arriving on campus. The program director and staff will assist with orientation concerning courses, faculty, and students.

**Course Requirements** Students minoring in African studies must complete Graduate G732 (to be taken, if possible, during the fall semester of the first year) and four other graduate-level courses (normally of 3 or 4 credits each) in African studies outside their major field. The courses must be selected from at least two different disciplines and approved by the program director.

Students in the program normally take two years of an African language in addition to their course work for the minor. Such training is virtually requisite for the most important overseas studies grants, for example, SSRC/Ford and Fulbright-Hays awards, besides adding an invaluable dimension to the study and understanding of the area of Africa upon which the student determines to focus.

Students in the program are strongly encouraged to attend Graduate G731, Seminar on Contemporary Africa, regularly. The seminar, which meets Wednesday nights, is designed as an ongoing interdisciplinary dialogue for program students and faculty and features leading scholars from the United States, Africa, and Europe.

Students with special qualifications or previous course work at leading institutions may, with the approval of their faculty advisor for the African studies minor, request that the director make exceptions to or modifications of the requirements outlined above. At the same time, it should be emphasized that the requirements stated above constitute a minimum level of expectation.

**Examination** Although a 3.7 grade point average in African studies courses would normally exempt the student from having to take a written comprehensive examination, the decision in this matter rests with the student's major-field advisor and the faculty member representing African studies as the minor-field advisor. Certifying that the student has met the minimum requirements rests with a faculty member in the African Studies Program who is not in the student's major department.

## Courses

### Graduate

**I701-702 Interdisciplinary Workshop (3 cr.)**

**G731 Seminar on Contemporary Africa (1-3 cr.)**

**G732 Bibliography of Sub-Saharan Africa (3 cr.)** Introduction to the bibliography of Africa south of the Sahara, covering major reference works and bibliographies; regional, trade, and national bibliographies; government publications, social sciences, humanities, statistics, rare books, manuscripts, and online databases. Compilation of a comprehensive bibliography required.

### Afro-American Studies

**A351 Afro-American Art I: African Heritage (3 cr.)**

**A352 Afro-American Art II: Afro-American Artists (3 cr.)**

**A689 Independent Project in Black Literature (3 cr.)**

### Anthropology

**A303 Evolution and Prehistory (3 cr.)**

**B524 Human Paleontology Theory/Methods (3 cr.)**

**E305 Introduction to Ethnomusicology (3 cr.)**

**E310 Introduction to the Cultures of Africa (3 cr.)**

**E311 The Ethnography of Eastern Africa (3 cr.)**

**P315 Prehistory of Africa (3 cr.)**

**E375 Mental Illness in Cross-Cultural Perspective (3 cr.)**

**E405 Principles of Social Organization (3 cr.)**

**E420 Economic Anthropology (3 cr.)**

**E427 Cultural Ecology (3 cr.)**

**E440 Political Anthropology (3 cr.)**

**E455 Anthropology of Religion (3 cr.)**

**E480 Theory of Culture Change (3 cr.)**

**E510 Problems in African Ethnography and Ethnology (3 cr.)**

**E511 Ethnography of the Congo (3 cr.)**

**E520 Problems in Economic Anthropology (3 cr.)**

**E600 Seminar in Cultural and Social Anthropology (3 cr.)**

**E617 African Women (3 cr.)**

**E620 Seminar in Cultural Ecology (3 cr.)**

**E650 African Systems of Thought (1-3 cr.)**

**E660 Arts in Anthropology (3 cr.)**

**E661-E662 Seminar in Ethnomusicology I-II (3-3 cr.)**

**P314 Early Prehistory of Africa (3 cr.)**

**P315 Late Prehistory of Africa (3 cr.)**

### Comparative Literature

**C571 African Literature and Culture (3 cr.)**

**C611 Topics in Literary Genres, Modes, and Forms (4 cr.) (Post-Colonial African Fiction)**

### Economics

**E592 Economic Development of Less-Developed Countries (3 cr.)**

### Education

**H551-H552 Comparative Education I-II (3-3 cr.)**

**H560 Education and Change in Societies (3 cr.)**

**H620 Seminar in Educational Policy Studies (3 cr.)**

**R640 Planning Educational Media Systems: National and International (3 cr.)**

### English

**L674 Studies in International English (4 cr.)**

**L680 Special Topics in Literary Study and Theory (4 cr.) (English Literature of Africa)**

### Fine Arts

**A453 Art of Sub-Saharan Africa (4 cr.)**

**A552 Art of Eastern and Southern Africa (3 cr.)**

**A556 Art of Central Africa (3 cr.)**

**A650 Problems in African Art (4 cr.)**

### Folklore

**F501 Folklore Colloquium (3 cr.)**

**F714 Paradigms of Ethnomusicology (3 cr.)**

**F516 Proseminar in Folklore Theory and Method I: Materials of Folklore (3 cr.)**

**F522 Field Work in Folklore/Ethnomusicology (3 cr.)**

**F574 Seminar in Ethnomusicology: Transcription and Analysis (3 cr.)**

**F609 Folklore Seminar (3 cr.)**

**F617 Middle East Folklore/Folk Music (3 cr.)**

**F750 Performance Studies (3 cr.)**

**F755 Folklore, Culture, and Society (3 cr.)**

**F740 History of Ideas in Folklore/Ethnomusicology (3 cr.)**

## History

**B391 Themes in World History (3 cr.)**

**E531 African History from Ancient Times to Empires and City States (3 cr.)**

**E532 African History from Colonial Rule to Independence (3 cr.)**

**E533 Conflict in Central and Southern Africa (3 cr.)**

**E534 History of Western Africa (3 cr.)**

**E536 History of East Africa (3 cr.)**

**H695 Colloquium in African History (4 cr.)**

**H795 Seminar in African History (4 cr.)**

## Journalism

**J414 International Newsgathering Systems (3 cr.)**

**J514 International Communication (3 cr.)**

**J614 Communication and National Development (3 cr.)**

## Linguistics

**L653-L654 Field Methods in Linguistics I-II (3-3 cr.)**

**Near Eastern Languages and Cultures**

**N409 Modern Arabic Literature (3 cr.)**

**N480 Modern Arabic Poetry (3 cr.)**

**N541 Arabic Theatre (3 cr.)**

## Political Science

**Y338 African Politics (3 cr.)**

**Y342 Topics on the Regional Politics of Africa (3 cr.)**

**Y343 Development Problems in the Third World (3 cr.)**

**Y657 Comparative Politics (3 cr.)**

**Y663 Political and Administrative Development (3 cr.)**

**Y665 Public Law and Policy (3 cr.)**

**Public and Environmental Affairs**

**V575 International and Comparative Administration (3 cr.)**

**V576 Comparative Approaches to Development (3 cr.)**

**V577 International Economic Development Policy (3 cr.)**

**Spanish and Portuguese**

**P485 African Literature in Portuguese (3 cr.)**

## COURSES IN AFRICAN LANGUAGES

### Linguistics

**B101-B102 Elementary Bambara I-II (3-3 cr.)<sup>1</sup>**

**B201-B202 Intermediate Bambara I-II (3-3 cr.)**

**B301-B302 Advanced Bambara I-II (3-3 cr.)**

**H101-H102 Elementary Hausa I-II (3-3 cr.)<sup>1</sup>**

**H201-H202 Intermediate Hausa I-II (3-3 cr.)**

**H301-H302 Advanced Hausa I-II (3-3 cr.)**

**S101-S102 Elementary Swahili I-II (3-3 cr.)<sup>1</sup>**

**S201-S202 Intermediate Swahili I-II (3-3 cr.)**

**S301-S302 Advanced Swahili I-II (3-3 cr.)**

### Near Eastern Languages and Cultures

**A200-A250 Intermediate Arabic I-II (3-3 cr.)**

**A303-A304 Advanced Arabic I-II (3-3 cr.)**

## OTHER AFRICAN LANGUAGES

Various languages in addition to the above four are offered each year. Language instruction has been given in 40 languages over the past 25 years. The current offerings are Xhosa, a South African language and Twi, a West African language. Those language courses have been listed under the following designations:

### Linguistics

**F101-F102 Elementary African Languages I-II (3-3 cr.)<sup>1</sup>**

**F201-F202 Intermediate African Languages I-II (3-3 cr.)**

**F301-F302 Advanced African Languages I-II (3-3 cr.)**

In addition, tutorials have been arranged when the demand was not sufficient to offer a regular language course. In recent academic years, for example, tutorials were given in Chichewa, Ewe, Kirundi, Shona, and Zulu-Ndebele under the course designation:

### Linguistics

**S506 Individual Instruction in Foreign Languages (cr. arr.)**

### Languages (cr. arr.)

For courses in other departments that may be counted toward the Ph.D. minor, consult the program director.

## Afro-American Studies

**College of Arts and Sciences  
Bloomington**

**Chairperson** Professor John McCluskey Jr.

**Departmental e-mail:** afroamer@indiana.edu

**Department URL:**

<http://www.indiana.edu/~afroamer/afroamer-home.html>

## Graduate Faculty

**Martha C. Kraft Professor** Herman Hudson (Emeritus)

**Professors** Winona Fletcher (Emerita, Theatre and Drama), Phyllis Klotman (Emerita), John McCluskey Jr., William Wiggins Jr.

**Associate Professors** Akwasi Assensoh, Valerie Grimm, Audrey McCluskey\*

\*Four (4) credits each semester for undergraduates.



## Adjunct Graduate Faculty

**Distinguished Professor** David Baker  
(Music)

**Professor** Raymond Hedin (English), Eileen  
Julien (Comparative Literature)

**Associate Professors** Carolyn Calloway-  
Thomas (Communication and Culture)

**Graduate Advisor** Professor Frederick  
McElroy, Memorial Hall East M27, (812)  
855-2248

The multidisciplinary Department of Afro-  
American Studies seeks to (1) create and share  
with academic and nonacademic communities  
scholarship of the highest quality dealing with  
the broad range of the Afro-American dealing  
experience; (2) promote the study and  
understanding of the historical and  
contemporary connections among Africans,  
African Americans, and other New World  
black communities; and (3) affirm the  
democratic tradition of equal opportunity for  
all by combating all forms of discrimination  
based on ethnicity, gender, class, and religious  
differences. The department assumes the  
ongoing responsibility of creating materials  
and conducting seminal research that aids in  
the development and shaping of Afro-  
American studies as a discipline.

## Master of Arts Degree

The purposes of this program are: 1) to offer  
students an intense program in the analysis of  
Afro-American issues; 2) to expose students to  
both historical and current methodological  
approaches; 3) to expose students to issues  
throughout the African diaspora; 4) to refine  
critical and problem-solving skills in both the  
humanities and social sciences; 5) to extend a  
sound basis for those going into a doctoral  
program; and 6) prepare students for  
administrative, teaching, communication, and  
social service careers. In sum, the program  
provides a theoretical base of knowledge,  
methods of research, and a context for  
analyzing the African American context that  
can be invaluable either in further graduate  
studies or in a specific job or career choice.

**Admission** The program will be open to any  
eligible student with a bachelor's degree from  
an accredited college. Applicants must have a  
minimum GPA of 3.0. Letters of  
recommendations, a brief personal essay, and  
GRE scores are the main sources of  
information upon which decision will be  
made.

**Course Requirements** All students will  
complete a minimum of 32 credit hours with a  
minimum 3.0 grade point average. All  
students must take the three required courses

for a total of nine credit hours: A500  
Introduction to Afro-American Studies; A690  
Directed Readings; and A698 Field Study  
Seminar. Students must take a minimum of 18  
hours in one of the concentration areas: Arts  
(dance, film studies, music); Literature; or  
History, Culture, and Social Issues. At the time  
of admission, each student and the graduate  
advisor together plan a program of study,  
including the selection of a major  
concentration area.

M.A. candidates may satisfy the foreign  
language requirement by showing satisfactory  
completion of course work or passing a  
language proficiency exam. Students in the  
History, Culture, and Social Issues  
concentration have the additional option of  
selecting between the research skills of  
computer science or statistics.

Through the A698 Field Study Seminar  
students will have the opportunity to work in,  
for example, organizations, agencies, and  
archives and develop an alternative, thesis-  
length document.

## Ph.D. Minor in Afro-American Studies

The department offers the Ph.D. minor in  
Afro-American studies for students enrolled in  
any doctoral program at Indiana University.

For the Afro-American studies minor, students  
must complete 15 credit hours of graduate  
course work selected from the department's  
three concentration areas: (1) arts; (2)  
literature; and (3) history, culture, and social  
issues.

Doctoral students who wish to explore the  
wide range of course options available in Afro-  
American studies and cooperating  
departments should confer with the  
departmental graduate advisor.

**Admission** Doctoral students in good  
standing are admitted to the Afro-American  
studies minor through interview or  
correspondence with the graduate advisor. At  
the time of admission, each student and the  
graduate advisor together plan an  
individualized program of study, including  
the selection of a major concentration area.

**Course Requirements** A total of 15 credit  
hours, to include three courses (9 cr.) in one  
concentration area and two courses (6 cr.) in  
another area. With written permission of the  
graduate advisor, students may take four  
courses (12 cr.) in a single concentration area  
and one course (3 cr.) in another area.

**Grades** A cumulative grade point average of  
3.4 is required of work for the Ph.D. minor.

**Examination** A comprehensive examination  
usually is not required; however, the decision  
to waive the examination rests with the faculty  
committee of the student's concentration area.

## Courses

### GENERAL

**A500 Introduction to Afro-American Studies  
(4 cr.)** Representative readings in  
interdisciplinary and comparative scholarship;  
the origins and development of Afro-American  
studies; current issues and trends.

**A590 Special Topics in Afro-American  
Studies (3 cr.)** Intensive study and analysis of  
selected Afro-American problems and issues  
of limited scope, approached within an  
interdisciplinary format. Topics will vary, but  
will ordinarily cut across departmental  
concentration areas.

**A591 Black Intellectual Traditions (4 cr.)**  
Surveys the evolution of "racial" ideas and  
ideologies among African Americans.  
Participants will discuss how Black  
intellectuals have engaged in dialogue and  
debate about strategies for coping with  
injustice, while formulating diverse concepts  
of justice, salvation, artistry, and positive Black  
identity.

**A690 Core Readings in Afro-American  
Studies (4 cr.)** Preparation for the  
comprehensive master's examination.  
Colloquium in which students will read and  
critically examine, both in oral presentations  
and in written assignments, core texts which  
reflect the complexity and pluralism of Afro-  
American studies.

**A698 Field Study Seminar (4 cr.)**  
Development of the final master's project. A  
critical paper, a thesis-length documentation of  
a field study, or a substantial record of creative  
activity is required.

### LITERATURE

**A501 Seminar in the Harlem Renaissance  
(4 cr.)** Study of the major historical figures of  
the period designated by cultural historians as  
the Harlem Renaissance (ca. 1919-29),  
emphasis on the sociopolitical reasons for the  
proliferation of art, music, and literature  
during this significant decade with  
examination of the causes and lasting  
influences on contemporary black culture.

**A502 Seminar on Wright, Baldwin, and  
Ellison (4 cr.)** A close critical study of selected  
works by Richard Wright, James Baldwin, and  
Ralph Ellison to assess their relationship with  
Harlem Renaissance emphases, contemporary  
American writing, and the black arts  
movement. The relationship of these men and  
their works to relevant sociopolitical issues  
such as McCarthyism, the liberation of African

nations, and the civil rights campaigns of the  
early 1960s will also be examined.

**A561 Afro-American Autobiography (3 cr.)** A  
survey of autobiographies written by black  
Americans in the last two centuries. The course  
emphasizes how the autobiographers combine  
the grace of art and the power of argument to  
urge the creation of genuine freedom in  
America.

**A571 Black Literature for Teachers (3 cr.)** A  
survey of black American literature from the  
Harlem Renaissance to the present with  
opportunities for research into teaching  
materials. This course is designed primarily for  
teachers. Credit not given for this course  
toward Ph.D. minor.

**A579 Early Black American Writing (3 cr.)**  
Afro-American writing before World War II  
with emphasis on critical reactions and  
analyses. Includes slave narrative,  
autobiography, rhetoric, fiction, and poetry.

**A580 Contemporary Black American Writing  
(3 cr.)** The black experience in America as it  
has been reflected since World War II in the  
works of outstanding Afro-American writers:  
fiction, nonfiction, poetry, and drama.

**A583 Blacks in American Drama and Theatre,  
1767-1945 (3 cr.)** Image of blacks as reflected in  
American drama from 1767 to 1945. Selected  
dramas of both white and black playwrights,  
such as Isaac Bickerstaffe, William Wells  
Brown, Eugene O'Neill, and Richard Wright,  
who depicted blacks on the stage.

**A584 Blacks in American Drama and Theatre,  
1945-Present (3 cr.)** Image of blacks as  
reflected in American drama from 1945 to  
present. Emphasis on the contributions of  
black playwrights, such as Lorraine  
Hansberry, Langston Hughes, Imamu Amiri  
Baraka (LeRoi Jones), Ted Shine, and Ed  
Bullins.

**A585 Seminar in Black Theatre (3 cr.)**  
Contributions of blacks to the theatre in  
America. Reading and discussion of selected  
dramas and critiques with opportunities for  
involvement in the oral interpretation of one or  
more of the plays.

**A678 Early Black American Poetry, 1746-1910  
(3 cr.)** A literary and historical survey of  
general trends and individual  
accomplishments in early Afro-American  
poetry, ranging from narrative folk poems, the  
formalist poetry of Jupiter Hammon and  
Phillis Wheatley, and the popular poetry of  
Frances E. W. Harper and Paul Laurence  
Dunbar, to early modern poetry.

**A679 Contemporary Black Poetry (3 cr.)** An  
examination of black poetry from Dunbar to  
the present, emphasizing the emergence,  
growth, and development of black  
consciousness as a positive ethnic  
identification.

**A680 The Black Novel (3 cr.)** Analysis of the Afro-American novel from the Harlem Renaissance to the present: genesis, development, and current trends. Emphasis on traditions arising out of the black experience and on critical perspectives developed by black critics and scholars.

**A689 Independent Project in Black Literature (3 cr.)** Designed to meet individual interests of students by providing opportunities for research on a chosen topic and by encouraging nontraditional approaches or settings in the application of concepts developed in formal classes.

#### ARTS

**A594 Black Music in America (3 cr.)** A survey of black music from its African origin to the present with special emphasis on its social, economic, and political implications.

**A597 Popular Music of Black America (3 cr.)** A sociocultural and musical analysis of urban black popular music, its performers, producers, and composers from the 1940s to 1980 rhythm and blues, rock n' roll, soul, ballads, funk, disco, and the raps.

**A699 Independent Project in Black Music (3 cr.)** Designed to meet individual interests of students by providing opportunities for in-depth research on a chosen topic and by providing settings for the creative and practical application of concepts developed in formal class settings.

#### History, Culture, Social Issues

**A552 History of the Education of Black Americans (3 cr.)** Education of black Americans and its relationship to the Afro-American experience. Trends and patterns in the education of black Americans as they relate to the notions of education for whom and for what.

**A669 Independent Project in Black Social Issues (3 cr.)** Designed to meet individual interests of students by providing opportunities for research on a chosen topic and by encouraging nontraditional approaches or settings in the application of concepts developed in formal classes.

#### Cross-Listed Courses<sup>1</sup>

##### LITERATURE

English  
**L655 American Literature and Culture 1900-1945 (4 cr.)**

<sup>1</sup> A student may choose one of the following courses or other approved cross-listed courses to satisfy a concentration in literature; the arts; or history, culture, and social issues.

#### ARTS

##### Music

**M582 The Bebop Era (3 cr.)**

**M583 Duke Ellington (3 cr.)**

**M584 Research in the History and Analysis of Jazz (3 cr.)**

**M596 Art Music of Black Composers (3 cr.)**

#### HISTORY, CULTURE, SOCIAL ISSUES

##### Anthropology

**E450 Folk Religions (3 cr.)**

**E455 Anthropology of Religion (3 cr.)**

**E457 Ethnic Identity (3 cr.)**

**E650 African Systems of Thought (1-3 cr.)**

#### Communication and Culture

**S727 Seminar in Cross-Cultural Communications (3 cr.)**

#### Criminal Justice

**P680 Seminar: Issues in Criminal Justice (3 cr.)**

#### Folklore

**F609 African and Afro-American Folklore/Folk Music (3 cr.)**

**F625 North American Folklore/Folk Music (3 cr.)**

#### History

**E531 African History from Ancient Times to Empires and City States (3 cr.)**

**E532 African History from Colonial Rule to Independence (3 cr.)**

**E534 History of Western Africa (3 cr.)**

#### Political Science

**Y657 Comparative Politics (3 cr.)**

#### Sociology

**S610 Urban Sociology (3 cr.)**

**S631 Intergroup Relations (3 cr.)**

## American Studies

### Combined Degree Program

College of Arts and Sciences  
 Bloomington

Director Eva Cherniavsky

Departmental e-mail: nam@indiana.edu

Departmental URL:  
<http://www.indiana.edu/~amst>

### Graduate Faculty

**Distinguished Professors** David Baker Jr.  
 (Music), Richard Bauman (Folklore)

**Chancellors' Professors** James Naremore  
 (Communication and Culture), Stephen Stein  
 (Religious Studies)

**College Professor** Henry Glassie (Folklore)

**Professors** Judith Allen (History, Gender Studies), James Andrews (Communication and Culture), Anthony Ardzzone (English), Patrick Baude (Law), John Bodnar (History), Sarah Burns (Fine Arts), Stephen Conrad (Law), Raymond DeMallie (Anthropology), Sandra Dolby (Folklore Institute), Lawrence Friedman (History), Carol Greenhouse (Communication and Culture), Michael Grossberg (History), Karen Hanson (Philosophy), Russell Hanson (Political Science), Raymond Hedin (English), David Hertz (Comparative Literature), Jeffrey Isaac (Political Science), Robert Ivie (Communication and Culture), Edward McClellan (Education), James Madison (History), Portia Maulsby (Afro-American Studies), John McCluskey Jr. (Afro-American Studies), Lewis H. Miller (English), Richard B. Miller (Religious Studies), David P. Nord (Journalism), David J. Nordloh (English), Robert Orsi (Religious Studies), Judith Roof (English), David Smith (Religious Studies), Murray Sperber (English), David Thelen (History), Ronald Waincoat (Theatre and Drama), Pamela Walters (Sociology), Albert Wertheim (English)

**Associate Professors** Christopher Anderson  
 (Communication and Culture), Mellonce Burnim (Afro-American Studies), James Capshew (History and Philosophy of Science), Steven Chermak (Criminal Justice), Eva Cherniavsky (English), Claude Clegg (History), Nick Cullather\* (History), Michael Curtin (Communication and Culture), Ellen Dwyer (Criminal Justice), Jonathan Elmer (English), Thomas Foster (English), Wendy Gamber\* (History), Gloria Gibson (Afro-American Studies), Joan C. Hawkins\* (Communication and Culture), Jeffrey Huntsman (English), David James (Sociology), Barbara Klinger (Communication and Culture, Film Studies), John Lucates (Communication and Culture), Michelle Moody-Adams (Philosophy), Carol Polsgrove (journalism), Dennis Senchuk (Philosophy), Lois Silverman\* (Recreation and Park Administration), Beverly Stoeltje (Folklore), Steven Stowe (History), Jeff Wasserstrom (History)

**Assistant Professors** Purnima Bose (English)\*, Paul Gutjahr\* (English), Roopali Mukherjee\* (Communication & Culture), Robert Terrill\* (Communication and Culture)

**Senior Scholar/Curator** Kathleen Foster (Fine Arts)

For graduate student information, contact Ballantine Hall 520, phone (812) 855-7748, fax

(812) 855-0001, or see  
<http://www.indiana.edu/~amst>

**Degrees Offered** Doctor of Philosophy, a combined degree program in American Studies and another discipline (for example, anthropology, communication and culture, English, fine arts, folklore, history, history of education, journalism, political science, religious studies, sociology, theatre and drama).

The American Studies Program provides an opportunity to pursue the interdisciplinary study of American society and culture. In the program, students acquire specialized training in one particular discipline as well as firm grounding in interdisciplinary study. They are encouraged to shape portions of their graduate studies to fit individual needs and interests. Courses in the program are also open to graduate students pursuing the master's degree, special nondegree graduate students, and international students.

### Special Program Requirements

(See also general University Graduate School requirements.)

### Doctor of Philosophy Degree

**Admission** Students pursuing graduate study in American civilization, American history, American literature, U.S. government or political institutions, as well as comparative studies in American arts, cultures, folklore, or religions or social formations are eligible to apply for admission. Acceptance into the American Studies program is contingent upon prior admission by the cooperating department. Students should therefore apply simultaneously for admission both to American Studies and to that department, indicating a desire to pursue the combined doctoral degree in their statement of purpose, which is to be submitted with the application. Deficiencies in background may be removed by completing specified courses.

**Course Requirements** A minimum of 90 credit hours, of which 32 must be in American Studies, including G603, G751, and two additional courses, such as G604, G620, G753, or cross-listed courses outside the student's home department. The 32 credit hours may include 16-18 credit hours of appropriate courses relevant to American Studies inside the student's home department. Strong encouragement is given to interdisciplinary diversification. The dissertation (minimum of 15 credit hours) should reflect interdisciplinary study and research.

**Qualifying Examination** Students in the combined Ph.D. degree program must take a comprehensive written examination in the field of American Studies in addition to the qualifying examination given in the student's home department. The examination is to be taken after completion of the American Studies course requirements. The examination may be repeated only once.

**Final Examination** The oral defense of the dissertation will be conducted jointly with the student's home department.

**Ph.D. Minor in American Studies** Students choosing American Studies as a minor (minimum 12 credit hours) in their doctoral program must complete G603, G751, and either G604, G620, 4 credit hours in G753, or a cross-listed course outside their home department that has been approved by the program director.

### Core Courses

(May not be fulfilled by cross-listed courses within student's home department.)

#### American Studies

**G603 Introduction to American Studies (4 cr.)** Representative readings in interdisciplinary scholarship; the origins and the development of American Studies and current trends.

**G604 Perspectives in American Studies (4 cr.)** Survey of perspectives that have been and currently are significant in American Studies.

**G620 Colloquium in American Studies (4 cr.)** Readings, reports, and discussions on different aspects of American culture. Topics and instructors will change each time the course is offered. May be repeated once for credit.

**G751 Seminar in American Studies (3-4 cr.)** P: G603. R: G620. Intensive study of specific topics in American culture with emphasis on developing skills in interdisciplinary research. Topics and instructors will change each time the seminar is offered. May be repeated once for credit.

**G753 Independent Study (1-4 cr.)** P: consent of the director of American Studies and of

instructor, who must be a member of the American Studies faculty.

### Cross-Listed Courses

#### Afro-American Studies

**A500 Introduction to Afro-American Studies (4 cr.)**

**A501 Seminar in the Harlem Renaissance (4 cr.)**

**A502 Seminar on Wright, Baldwin, and Ellison (4 cr.)**

**A561 Afro-American Autobiography (3 cr.)**

**A579 Early Black American Writing (3 cr.)**

**A580 Contemporary Black American Writing (3 cr.)**

**A583 Blacks in American Drama and Theatre, 1767-1945 (3 cr.)**

**A584 Blacks in American Drama and Theatre, 1945-Present (3 cr.)**

**A585 Seminar in Black Theatre (3 cr.)**

**A590 Special Topics in Afro-American Studies (3 cr.)**

**A594 Black Music in America (3 cr.)**

**A597 Popular Music of Black America (3 cr.)**

**A678 Early Black American Poetry, 1746-1910 (3 cr.)**

**A679 Contemporary Black Poetry (3 cr.)**

**A680 The Black Novel (3 cr.)**

#### Anthropology

**E320 Indians of North America (3 cr.)**

**E329 Indians in the United States in Twentieth Century (3 cr.)**

**E425 Ethnozoology: Studies in American Indian Subsistence (3 cr.)**

**E505 Social Organization and Process (3 cr.)**

**E525 Comparative Ethnology of North America (3 cr.)**

**P360 Prehistory of North America (3 cr.)**

**P361 Prehistory of Midwestern United States (3 cr.)**

**P365 Prehistory of Western North America (3 cr.)**

#### Communication and Culture

**S406 The Study of Public Address (3 cr.)**

**S444 Political Communication (3 cr.)**

**S537 Public Dialogue in America to 1865 (3 cr.)**

**S538 Public Dialogue in America, 1865-1945 (3 cr.)**

**S539 Public Dialogue in America after 1945 (3 cr.)**

**C512 Research and Methods in Media Culture (3 cr.)**

**C551 Mass Media and Culture (3 cr.)**

**C593 History of European and American Films I (4 cr.)**

**C594 History of European and American Films II (4 cr.)**

**C652 Cultural Dimensions of International Communications (3 cr.)**

#### Education

**H504 History of American Education (3 cr.)**

**H637 Topical Seminar: Women and Education in America (3 cr.)**

**H637 Topical Seminar: History of Childhood and Education in America (3 cr.)**

#### English

**G651 American English (4 cr.)**

**L651 American Literature, 1609-1800 (4 cr.)**

**L653 American Literature, 1800-1900 (4 cr.)**

**L655 American Literature and Culture 1900-1945 (4 cr.)**

**L672 Modern American Drama (4 cr.)**

**L673 Studies in Women and Literature (4 cr.)** (when primarily on American subjects)

**L680 Special Topics in Literary Study and Theory (4 cr.)** (when primarily on American subjects)

**L751 Major American Writers, 1700-1855 (4 cr.)**

**L753 Major American Writers, 1855 to the Present (4 cr.)**

**L761 American Poetry (4 cr.)**

**L763 American Fiction (4 cr.)**

**L779 Literature and Society (4 cr.)** (when primarily on American subjects)

**L780 Special Studies in English and American Literature (4 cr.)** (when on American subjects)

#### Fine Arts

**A445 American Art to 1860 (4 cr.)**

**A446 American Art, 1860-1900 (4 cr.)**

**A542 American Painting from the Revolution to World War I (4 cr.)**

**A548 American Architecture (4 cr.)**

**A550 History of Photography (4 cr.)**

**A643 Problems in American Art (4 cr.)**

**A647 Problems in Contemporary European and American Art (4 cr.)**

#### Folklore

**F625 North American Folklore/Folk Music (3 cr.)**

**F638 Latin American Folklore/Folk Music (3 cr.)**

**F640 Native American Folklore/Folk Music (3 cr.)**

#### History

**A301-A302 American Colonial History I-II (3-3 cr.)**

**A303-A304 United States, 1789-1865 I-II (3-3 cr.)**

**A313 Origins of Modern America (3 cr.)**

**A315 United States since World War II (3 cr.)**

**A317 American Social and Intellectual History (3 cr.)**

**A321-A322 History of American Thought I-II (3-3 cr.)**

**A325-A326 American Constitutional History I-II (3-3 cr.)**

**A329-A330 Social History of American Enterprise I-II (3-3 cr.)**

**A335-A336 The American Middle West I-II (3-3 cr.)**

**A337-A338 The American Far West I-II (3-3 cr.)**

**A339-A340 History of the South I-II (3-3 cr.)**

**A345-A346 American Diplomatic History I-II (3-3 cr.)**

**A347 American Urban History (3 cr.)**

**A352 History of Latinos in the United States (3 cr.)**

**A353-A354 American Economic History I-II (3-3 cr.)**

**A355-A356 Afro-American History (3-3 cr.)**

**A361 Studies in American History for Teachers I (3 cr.)**

**A364 History of Black Americans (3 cr.)** (IUPUI only)

**A371-A372 History of Indiana I-II (3-3 cr.)** (IUPUI only)

**A421 Topics in United States History (3 cr.)** (IUPUI only)

**A507 American Cultural History (3 cr.)**

**H650 Colloquium in United States History (4 cr.)**

**H750 Seminar in United States History (4 cr.)**

#### Journalism

**J650 History and Philosophy of the Media (3 cr.)**

**J651 Qualitative Methods in Mass Communication Research (3 cr.)** (when primarily on American subjects)

**J653 The Media in the Twentieth Century (3 cr.)**

**J660 Topics Colloquium (3 cr.)** (When primarily on American subjects)

**Latin American and Caribbean Studies**

**L501 Seminar: Contemporary Latin America (3 cr.)**

#### Law

**B659 American Legal History (3 cr.)**

**B756 Race, American Society, and the Law** (3 cr.)  
**B760 Constitutional History Colloquium** (3 cr.)  
**L778 Seminar in American Legal History** (2 cr.)

**Latin American Studies**

**Political Science**

**Y383-Y384 American Political Ideas I, II** (3-3 cr.)

**Y661 American Politics** (3 cr.)

**Y665 Public Law and Policy** (3 cr.)

**Religious Studies**

**R532 Studies of Religion in American Culture** (3 cr.)

**R635 Colloquium on North American Religious History** (3 cr.)

**R735 North American Religions** (3 cr.)

**Sociology**

**S510 Introduction to Social Organization** (3 cr.)

**S652 Topics in Qualitative Methods** (3 cr.)

**S700 Topical Seminar** (3-12 cr.)

**Telecommunications**

**R511 Research Methods in Audience Analysis** (3 cr.)

**R530 Survey of Telecommunications Policy in the United States** (3 cr.)

**R630 History of Telecommunications Law** (3 cr.)

**Theatre and Drama**

**T565-T566 American Drama and Theatre I-II** (3-3 cr.)

**T765 Seminar in American Theatre and Drama** (3 cr.)

## Anatomy and Cell Biology

**School of Medicine Indianapolis**

**Chairperson** Professor David Burr

**Departmental e-mail:** williams@anatomy.iupui.edu

**Departmental URL:** http://anatomy.iupui.edu/

### Graduate Faculty

**Professors** Charles Blevins (Emeritus), Andrew Evan, Vincent Gattone, Ralph Jersild (Emeritus), James McAteer, Brian O'Connor (Emeritus), Richard Peterson, Feng Zhou

**Associate Professors** Joseph Bidwell (Dentistry), Kenneth Byrd, Bang Hwang, Michael Kubek, John Schmedtje (Emeritus), Mark Seifert, Dart Swartz, James Williams, Donald Wong, Zao Cheng Xu

**Assistant Professors** Hiroki Yokota\*

**Adjunct Professor** Michael Pritz (Neurosurgery)

**Adjunct Associate Professors** Masahiko Sato (Affiliate Graduate Faculty), Gerald Smith Jr. (Medicine), David A. Suzuki (Ophthalmology)

**Adjunct Assistant Professors** Bonnie Blazer-Yost (Biology, Physiology and Biophysics), Wei-Hua Lee (Pediatrics), Alan Mikesky (Physical Education)

**Graduate Advisor** James C. Williams, Ph.D., Chair of Graduate Studies Committee, Department of Anatomy, 635 Barnhill Drive, MS-259, Indianapolis, IN 46202, (317) 274-7495, williams@anatomy.iupui.edu

**Degrees Offered** Master of Science and Doctor of Philosophy. The Master of Science as a terminal degree in this field is not encouraged.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree, preferably with a background in general, cellular and molecular biology; developmental biology; general and organic chemistry;

physics; and calculus. Candidates should have a minimum grade point average of 3.0 (B) overall, and 3.0 in science courses. The Graduate Record Examination General Test is required. It is preferable that graduate study be started in the fall semester. Application for admission to the Master of Science program requires sponsorship by a graduate faculty member. Completed applications should be received before January 15. A personal interview may be requested. Applicants will be notified of departmental action by April 15.

### Master of Science Degree

**Course Requirements** A total of 30 credit hours, including D861, and at least three of the following: D850, and either D851 or D852 or G818.

**Thesis** Normally required; an alternative project may, however, be approved by the student's advisory committee.

**Final Examination** Written. Oral defense of the thesis also required.

\*See also "Anatomy" in the Medical Sciences program, Bloomington.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including D861, and at least three of the following: D850, D851, D852, or G818. An approved course in statistics also is required. A minimum of 32 credit hours must be in courses other than research.

**Minor** A minimum of 12 credit hours of course work other than research in a related program (e.g., biochemistry, biophysics, medical genetics, microbiology, neurobiology, pathology, pharmacology, physiology, toxicology, or life science). For a minor in life science, at least 6 credit hours must be taken in one department. The minor must be approved by the student's advisory committee.

**Other Requirements** Students are required to gain experience in teaching by assisting one semester in gross anatomy laboratory instruction.

**Grades** Overall B (3.0) average in course work and no less than a B in D850, D851, D852 or G818.

**Qualifying Examination** Written and oral, designed to assess the student's preparedness to carry out a research program.

**Final Examination** Oral defense of dissertation.

Further details of departmental policies will be made available to the student on request and at the time of enrollment.

## Courses

The courses below are offered every year unless otherwise indicated. "Even" or "odd" refers to the calendar year in which the academic year ends, (e.g., 1998-99 is an "odd" year).

**D501 Functionally-oriented Human Gross Anatomy (5 cr.)** P: Concepts of Biology I (K101) or Concepts of Biology II (K103), or Embryology (K331), or equivalent. Enrollment: Consent of instructor. Introduction to the concepts, terminology, and basic structure of the human body. Prosection of the body will use a regional approach. Emphasis on providing fundamental knowledge of the structure/function of major organ systems, peripheral nervous system, and vascular supply to the trunk, head and neck, limbs, and back.

**D502 Basic Histology (4 cr.)** P: K103 or K324. Lecture and laboratory instruction on the microscopic structure of the basic tissues and organs of the body. Previous exposure to gross anatomy principles and dissection encouraged.

**D526 Methods in Cell and Neurobiology (4 cr.)** Didactic and laboratory instruction in

contemporary methods used in modern cell biology and neurobiology research. Methods range from cellular to molecular. Each method is taught by a faculty member with expertise and experience in that area.

**D527 Graduate Neuroanatomy (3 cr.)** P: any undergraduate biology or anatomy course, or approval of the course director. A

neuroanatomy/neurobiology course that introduces the student to terminology, pathways, organization, and concepts of the human nervous system. It is designed for those seeking a Doctoral or terminal Master of Science degree in department other than Anatomy, or for students in interdisciplinary programs such as Psychology, Medical and Biological Engineering, and the Medical Neurobiology Program.

**D850 Gross Anatomy (8 cr.)** A survey course of human anatomy including a complete dissection.

**D851 Histology (4 cr.)** A complete survey of the microscopic structure of the tissues and organs of the body.

**D852 Neurobiology (5 cr.)** An interdisciplinary, systemically organized study of structure, function, and dysfunction of the human nervous system.

**D853 Human Developmental Anatomy (4 cr.)** P: D850, D851, D852. A correlative study of prenatal and neonatal form and function. Odd years.

**D856 Advanced Histology (1-5 cr. arr.)** In-depth consideration of selected topics on the microscopic anatomy of cells, tissues, and organs.

**D860 Research (1-10 cr.)**

**D861 Seminar (1 cr.)** Required yearly for all graduate students in residence. Literature and research reports and discussions by faculty, students, and invited distinguished visitors.

**D862 Anatomical Techniques (2 cr.)**

Introduction to techniques in anatomical research and in preparation of teaching materials.

**D863 Peripheral Nervous System (2-3 cr.)** Anatomical and functional consideration of sensory, motor, and autonomic portions of the peripheral nervous system, with emphasis on neurotransmission and its regulation, physiology of receptors, neuromuscular junction, peripheral axons and their central regulation, myelination, and axonal transport.

**D864 Advanced Gross Anatomy (cr. arr.)** P: D850. Functional, clinical, and developmental gross morphology of specific regions of the human body; special topics may vary.

**D865 Developmental Neuroanatomy (3 cr.)** Basic principles and problems relating to prenatal and postnatal development and aging of the central nervous system.

**D866 Electron Microscopy (2 cr.)** P: D851 or equivalent, and consent of instructor. Introduction to electron microscopy, including rationale of biological specimen preparation, general principles of instrument operation, and related techniques.

**D867 Electron Microscopy Laboratory (cr. arr.)** P: D866 or concurrent, and consent of instructor. Enrollment limited. The application of techniques for electron microscopy of biological specimens, including preparative procedures, instrument operation, and photographic processing.

**D868 Histology of Immune System: Lecture (2 cr.)** P: D851. Current information on cells, tissues, and organs that participate in cellular and humoral immune reactions. Cytochemical methods for elucidating these reactions. Attention given to cellular aspects of immune mechanisms in cancer and organ transplantations.

**D869 Histology of Immune System: Laboratory (cr. arr.)** P: D868 or concurrent. Enrollment limited. The fluorescent antibody technique, enzyme-labeled antibody technique, electron microscopic immunocytochemistry, the isolation and observation of lymphocytes, and cytochemistry of marrow smears.

**D870 Tissue Culture: Lecture (2 cr.)** P: D871 concurrently. Study of living animal cells and tissues maintained in an artificial environment with emphasis on growth, differentiation, and their response to various factors.

**D871 Tissue Culture: Laboratory (2 cr.)** P: D870 concurrently. Application of laboratory techniques used in preparation of in vitro cultures, and their use in biomedical research.

**D875 Topics in Advanced Neuroanatomy (2-5 cr.)** Examination of the anatomy and related physiology and neurochemistry of selected brain areas. Topics will include regional structures (in spinal cord, brain stem, diencephalon, or telencephalon) or specific neurological systems (sensory, motor, or autonomic-visceral). Area of study to be arranged with instructor.

**D876 Neurotransmitter and Neuroendocrine Cytology and Anatomy (3 cr.)** Detailed examination of the cytology and connections, chemical and physiological regulatory mechanisms, interactions, and functions of neurotransmitter or neurohormonal cells, including central neurons utilizing dopamine, norepinephrine, epinephrine, serotonin, acetylcholine, amino acid transmitters, substance P, and endorphins. Regulation and function of neuroendocrine transducers related to anterior and posterior pituitary, adrenal medulla, pineal.

## Graduate

**G595 Current Topics in Cell Structure and Function (3 cr.)** P: D851 or F705 or B817 or consent of instructor. An advanced course in cell biology designed to evaluate contemporary issues in cell structure and function. Background lectures are complemented by discussion of primary research articles. Emphasis is on developing a critical approach to the cell biology literature by evaluating the effectiveness and limitations of various experimental strategies.

**G801 Experimental Approaches to Cell Structure and Function (3 cr.)** The overall objective of this graduate course in cell biology is to present in an experimental context, information integrating cell structure with cell function. The focus is on topics in which new information on cell structure has enhanced or reformulated our understanding of cell function.

**G818 Integrative Cell Biology (3 cr.)** This course provides broad understanding of ways in which cells are organized and integrated into tissues. Emphasis is on the function of cells in neural/neuroendocrine system, cardiopulmonary, renal, and immune systems in the cytomechanics. Modern approaches to the study of tissue function by analysis of cellular regulation will be emphasized.

## Animal Behavior

### Bloomington

**Co-Directors** Professor Ellen Ketterson and Professor William Timberlake

**Departmental e-mail:** [isummer@indiana.edu](mailto:isummer@indiana.edu)

**Departmental URL:** <http://www.indiana.edu/~animal/index.html>

### Graduate Faculty

**Professors** Jeffrey Alberts (Psychology), Ellen Ketterson (Biology), Curtis Lively (Biology), Val Nolan Jr. (Emeritus, Biology), William Rowland (Biology), Dale Sengelaub (Program in Neural Science, Psychology), Joseph Steinmetz (Program in Neural Science, Psychology), Roderick Suthers (Medical Sciences, Neural Science), William Timberlake (Psychology), Meredith West (Psychology)

**Associate Professors** Edmund D. Brodie, III (Biology), Armando Machado\* (Psychology)

**Senior Scientist** Andrew King\* (Psychology)

**Academic Advisors** Professor Ellen Ketterson, Jordan 033, (812) 855-6837;

Professor William Timberlake, Psychology 324, (812) 855-4042

**Adjunct Professors** Robert DeVoe (Optometry), Craig Nelson (Biology), Rudolf Raff (Biology), J. C. Randolph (School of Public and Environmental Affairs), George Rebec (Program in Neural Science, Psychology), Esther Thelen (Psychology)

**Adjunct Associate Professors** Preston Garraghty\* (Neural Science, Psychology), Kevin Hunt (Anthropology), Henry Prange (Medical Sciences), Dolores Schroeder (Program in Neural Science, Medical Sciences)

**Admission Requirements** Students must be admitted to a Ph.D. program in the Department of Biology, the Department of Psychology, or the Program in Neural Science or other related departments or programs (e.g., Program in Medical Sciences, Anthropology). They must also apply to the Program in Animal Behavior.

Students should select an advisory committee made up of at least three members of the graduate faculty. For students whose home department or program is biology, at least one member of the advisory committee from the Department of Psychology or the Program in Neural Science is expected. For students whose home department or program is the home department of Psychology or the Program in Neural Science, at least one member of the advisory committee from biology is expected. At least two of the student's committee members must be members of the Program in Animal Behavior.

### Ph.D. Minor in Animal Behavior

**Course Requirements** The minor in animal behavior requires the following courses: L567; N500 or M555; P504 or P527; and A501. A500 and A502 are recommended.

**Examination** As required by home department or program.

### Area Certificate in Animal Behavior

**Course Requirements** The requirements for the Area Certificate in Animal Behavior include all of the requirements of the minor, plus A502, one additional semester of A501 and one additional course from the approved list including: L581, Z540, P548, P526, or P717.

**Examination** As required by home department or program.

**Statistics Requirement** As required by home department or program.

**Thesis** Required.

## Courses

**A500 Introduction to Animal Behavior Research (1 cr.)** Introduces students to research opportunities in animal behavior. Faculty will present overviews of their research programs, emphasizing the integrative aspects of their work and its application to functional and mechanistic explanations of behavior.

**A501 Seminar in the Integrative Study of Animal Behavior (2-3 cr.)** Investigation of functional behavior of animals (e.g., migration, parental behavior, mate choice) using an interdisciplinary approach that attempts to integrate the perspectives of developmental psychology, ecology and evolutionary biology, neural science, and the science of learning and memory. Topic will vary. May be repeated for credit.

**A502 Research and Professional Ethics in Bio-Behavioral Sciences (1 cr.)** Readings and discussion dealing with general ethical issues in science, with a particular focus on animal behavior. Topics include treatment and protection of animals; the acquisition, analysis, and use of data; student-mentor and student-teacher relations; credit, authorship, and peer review.

## Cross-Listed Courses

### Biology

L567 Evolution (3 cr.)

Z540 Genetics of Population (3 cr.)

L581 Behavioral Ecology (3 cr.)

### Medical Sciences

M555 Medical Neuroscience (5 cr.)

P548 Neuroethology (2 cr.)

### Neural Science

N500 Neural Science I (4 cr.)

N501 Neural Science II (3 cr.)

### Psychology

P504 Learning and Motivation (3 cr.)

P527 Developmental Psychobiology (3 cr.)

P526 Neurobiology of Learning and Memory (3 cr.)

P667 Neuropsychopharmacology (3 cr.)

P717 Evolutionary Bases of Learning (3 cr.)

# Anthropology

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Richard Wilk

**Departmental e-mail:** [dwilkers@indiana.edu](mailto:dwilkers@indiana.edu)

**Departmental URL:**

<http://www.indiana.edu/~anthro/home.html>

## Graduate Faculty

**Distinguished Professors** Richard Bauman,  
Thomas A. Sebeok (Emeritus)

**Rudy Professor** Emilio Moran

**Chancellors' Professor** Robert Meier

(Emeritus)

**Professors** Della Collins Cook, Geoffrey Conrad, Raymond DeMallie, Paul Gebhard (Emeritus), Paula Girshick, Carol Greenhouse, Paul Jamison, James Kellar (Emeritus), Douglas Parks, Christopher Peebles, Anya Peterson Royce, Jeanne Sept, M. Nazif Shahran, Nicholas Toth, James Vaughan (Emeritus), Karen Vitelli, Richard Ward, Richard Wilk

**Associate Professors** Joëlle Bahloul, Kevin Hunt, Patrick Munson, K. Anne Pyburn, Kathy Schick

**Assistant Professors** Eduardo Somnewend Brondzio,\* Gracia Clark,\* Philip LeSound\*

**Adjunct Professors** Paul Newman (Linguistics), Robert Orsi (Religious Studies), Susan Sutton (I), Richard Ward (I)

**Adjunct Associate Professors** Stephanie Kane (Criminal Justice), Philip Parnell (Criminal Justice), Beverly Stoeltje (Folklore), Richard Ward (I)

**Lecturer** William Adams\*

Note: \*I" after a faculty member's name indicates that the person teaches at Indiana University-Purdue University Indianapolis.

**Director of Graduate Studies** Professor Paul Jamison, Student Building 255, (812) 855-1495, [jamison@indiana.edu](mailto:jamison@indiana.edu)

**Degrees Offered** Master of Arts and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** (1) Bachelor's degree from a recognized institution and evidence of academic potential to complete an advanced degree; (2) appropriate level of achievement on the Graduate Record

Examination General Test; (3) three letters of recommendation; and (4) a statement of goals in the field of anthropology. Recommended undergraduate training in anthropology and related fields; for students interested primarily in the subfield of bioanthropology, courses in chemistry and the biological sciences; for students specializing in the subfield of social/cultural archaeology, courses in history and earth sciences and the humanities; for students specializing in the subfield of social/cultural anthropology, courses in the social sciences and the humanities; for students specializing in the subfield of anthropological linguistics, courses in general linguistics and psycholinguistics.

## Master of Arts Degree

**Requirements** (1) A minimum of 30 credit hours, with a cumulative grade point average of 3.25 and no more than 6 hours of thesis credit. At least 20 credit hours must be in anthropology, including three courses (excluding thesis) which are numbered 500 or above; (2) at least one course which carries graduate credit in three of the four subfields listed above; (3) at least one semester or two summer sessions of full-time study while in residence on the Bloomington campus; and either (4) a thesis or (5) a four-hour written examination. Examination grading will be (a) pass with distinction, (b) pass (both of these include the award of the M.A. degree), or (c) failure. The examination may be taken twice, but two failures will result in automatic dismissal of the student. Option (4) or (5) must be selected; no change will be allowed once the selection is made. No oral examination or defense of the thesis is required. The thesis must be read and approved by all members of the student's committee. A master's thesis may be based on library, laboratory, or field research. The department does not require, but does recommend, the completion of one foreign language, particularly if the student contemplates continuing for the Ph.D.

## Doctor of Philosophy Degree

The Department of Anthropology offers all four subfields of the discipline (archaeology, including paleoanthropology), bioanthropology, linguistic anthropology, and social/cultural anthropology). Students elect one of these as the major field, but may take courses and/or minor in any of the other subfields. Each major involves its own breadth requirements within Anthropology; the programs also differ in other ways. Students should request a copy of the current departmental *Guide for Graduate Students* for details of the four courses of study. All have the following requirements in common.

**Foreign Language/Research Skills** One of three is required: (1) reading proficiency in two languages, normally selected from French, German, Russian, Spanish, or Portuguese (consult advisor for additional languages); (2) proficiency in depth in one language, normally selected from French, German, Russian, Spanish, or Portuguese; or (3) reading proficiency in one of the languages cited in (1) plus proficiency in computer science or statistics.

**Qualifying Examination** In order to be recommended to candidacy for the Ph.D. degree in anthropology, the student must pass a qualifying examination. This examination cannot be administered until the foreign language or research skills and other requirements have been fulfilled and until at least 60 credit hours have been earned. Students usually complete necessary course work and take the qualifying examination within three years of residence. The format of the exam shall be decided by the Advisory Committee in consultation with the student from among the following options: (1) a take-home exam, or (2) a proctored in camera exam, (3) an exam combining elements of (1) and (2). Preparation, administration, and grading of the examination are the responsibility of the advisory committee, but other members of the department are free to participate without vote. A passing grade requires the affirmative vote of a majority of the anthropologists on the examining committee. Grading is as follows: (a) pass with distinction; (b) pass (both (a) and (b) include certification to doctoral candidacy and the M.A. degree if desired and not already awarded); (c) low pass with terminal M.A. degree; (d) failure. The qualifying examination may be retaken once.

**Research Proposal** A research proposal must be approved by the student's advisory committee and, ultimately, by the research committee before funding may be requested or the research may be begun. This is a major project and usually is the basis of requests for external funding for the student's dissertation research. All proposals that include the use of living human subjects must receive advance clearance by the Bloomington Committee for the Protection of Human Subjects regardless of whether or not external funding is sought. This clearance is required for use of informants, participant observation, interviews, and questionnaires, as well as more invasive research such as measurement and testing.

**Dissertation** Each candidate must prepare a doctoral dissertation as part of the requirements for the Ph.D. degree. This dissertation may be the result of fieldwork or laboratory or library research. The department expects field research as part of the student's

doctoral training in anthropology, but the dissertation may be based upon field data, laboratory data, museum collections, archives, or other documentary sources. The topic and general outline of the proposed dissertation must be approved by the candidate's research committee.

**Final Examination** An oral examination of the dissertation which cannot be waived will be scheduled and administered by the candidate's research committee.

**Teaching** The department considers teaching experience to be a critical part of graduate training. Therefore, every effort will be made to provide teaching opportunities for each graduate student.

**Ph.D. Minor in Anthropology** Students in other departments may minor in anthropology by completing at least 12 credit hours of course work in anthropology. No more than 6 credit hours will be accepted by transfer of graduate credit from another university. Each minor student is assigned a faculty advisor to help in the selection of a set of courses that best contributes to the research goals of the student.

**Special Minors in Ethnomusicology, Anthropology and Health** Human Evolutionary Studies, Human Dimensions of Global Environmental Change. See under "Ethnomusicology" and "Anthropology and Health."

## Courses

### General Anthropology

A303 Evolution and Prehistory (3 cr.)

E303 Introduction to Social and Cultural Anthropology (3 cr.)

A403 Introduction to Museum Studies (3 cr.)

A405 Museum Methods (3 cr.)

A406 Field Work in Ethnography and

Linguistics (1-4 cr.; 8 cr. max.)

A408 Museum Practicum (1-4 cr.; 8 cr. max.)

A495 Individual Readings in Anthropology (1-4 cr.)\*

A505 Fields of Anthropology: A Graduate Survey (3 cr.) Cultural anthropology,

linguistics, archaeology, physical

anthropology. For graduate students of other departments and beginning graduate students in anthropology.

A506 Anthropological Statistics (3 cr.)

Statistics in all fields of anthropology. Scales, frequency distributions, contingency, correlation, probability, sampling, significance tests, elementary multivariate analysis.

A521 Internship in Teaching Anthropology

(3 cr.) Systematic and supervised internship

required of all first-year associate instructors.

Course includes formal class presentations by

the departmental AI trainer, formal development of teaching materials, prescribed observations of "master teachers," and supervisory visits by the AI trainer.

**A600 Seminar in Anthropology (2-4 cr.)** May be taken in successive semesters for credit.

**A800 Research (cr. arr.)** (1) Archaeology, (2) ethnology, (3) linguistics, and/or (4) physical anthropology.

#### **Bioanthropology**

**B301 Laboratory in Bioanthropology (3 cr.)**

**B370 Human Variation (3 cr.)**

**B405 Field Work in Bioanthropology (cr. arr.)**

**B464 Human Paleontology (3 cr.)**

**B466 The Primates (3 cr.)**

**B472 Bioanthropology of Aboriginal America (3 cr.)**

**B480 Human Growth and Development (3 cr.)**

**B500 Proseminar in Bioanthropology (3 cr.)**

Human evolution from the standpoint of an interaction of biological, ecological, and sociocultural factors. Survey of bioanthropology from historical, systematic, and applied viewpoint; emphasis on changing content, concepts, methods, and organization of the science.

**B521 Bioanthropology-Research Methods (3 cr.)** P: B200, B301. Designed for advanced students of bioanthropology and related biological sciences to familiarize them with the methods and techniques of collecting, preserving, and analyzing both morphological and somatological data.

#### **B522 Laboratory Methods in Bioanthropology (2 cr.)**

P: concurrent with B521. Laboratory dealing with methods and techniques of assessment and analysis of morphological and somatological data which forms the subject matter of B521.

**B523 Anthropometry (3 cr.)** P: B200, B301, or consent of instructor. Designed for advanced students in bioanthropology. Basic research techniques applicable to living populations. Research project on volunteer subjects required. Formation of hypotheses, data collection procedures, testing of hypotheses, and presentation of results in oral and written form will be stressed.

#### **B524 Theory and Method in Human Paleontology (3 cr.)**

P: B200, B301, or consent of instructor. Emphasis on fossil hominid evolution and adaptation. Intensive study of human fossil skeletal anatomy. Reconstruction of hominid diets and positional behavior via skeletal analysis and functional morphology.

**B525 Genetic Methods in Anthropology (3 cr.)** P: B200, B301, or consent of instructor. Specialized training in laboratory procedures and interpretation of genetic markers found in human populations. Major systems covered

are ABO, Rh, MNs, Duffy, Kell, secretor status, and PTC testing. Emphasis on use of genetic markers in human evolutionary research.

**B526 Human Osteology (3 cr.)** P: B200, B301, or consent of instructor. Descriptive and functional morphology of the human skeleton with emphasis on the identification of fragmentary materials. Determination of age, sex, and stature; craniology; and research methods in skeletal biology. Guided research project in the identification of skeletal material required.

**B528 Dental Anthropology (3 cr.)** P: B200, B301, or consent of instructor. Descriptive and functional morphology of primate dentitions, stressing nomenclature of crown features. Human enamel microstructure, development, wear, occlusion, pathology, odontometrics, and discrete variation as applied to research problems in bioanthropology. A guided research project is required.

**B550 Issues in Human Origins: Creation and Evolution (3 cr.)** Review of the creation/evolution controversy in a seminar setting. Fundamentals of organic evolution covered, especially pertaining to the origins of our species. Additionally, the major arguments as set forth by "scientific creationists" are presented, along with an appraisal of the "balanced treatment" notion that has been proposed for inclusion in public school curricula.

**B568 The Evolution of Primate Social Behavior (3 cr.)** Major patterns of social organization in the order of primates, with closer examination of several important primate species. Darwinian theories of behavioral evolution will be examined. Particular attention will be paid to the influence of food-getting and diet on social behavior.

#### **B600 Seminar in Bioanthropology (3 cr.)**

Subject will vary; students may thus receive credit more than once.

**B601 Primate Anatomy (3 cr.)** P: B200, B301; P or concurrent: B466. Comparative anatomy of the nonhuman primates with emphasis on the analysis of bone and muscle relationships.

Application of comparative techniques to current research in bioanthropology.

Dissection of several primate species required.

**B602 Paleopathology (3 cr.)** P: B200, B301. Disease in prehistoric skeletal material and in written and visual representations. Diagnosis and epidemiological characterization of diseases of bone. A guided research project on a topic in paleopathology is required. Seminar presentation of two literature reviews and a research project are required.

#### **Ethnography**

**E305 Introduction to Ethnomusicology (3 cr.)**

**E310 Introduction to the Cultures of Africa (3 cr.)**

**E311 The Ethnography of Eastern Africa (3 cr.)**

**E320 Indians of North America (3 cr.)**

**E321 Peoples of Mexico (3 cr.)**

**E322 Peoples of Brazil (3 cr.)**

**E325 North American Indian Musics (3 cr.)**

**E329 Indians in the United States in the Twentieth Century (3 cr.)**

**E330 Indians of South America (3 cr.)**

**E332 Jewish Women: Anthropological Perspectives (3 cr.)**

**E334 Jews in Moslem Society (3 cr.)**

**E340 Indians of Mexico and Central America (3 cr.)**

**E370 Peasant Society and Culture (3 cr.)**

**E371 Modern Jewish Culture and Society (3 cr.)**

**E375 Mental Illness in Cross-Cultural Perspectives (3 cr.)**

**E380 Urban Anthropology (3 cr.)**

**E404 Field Methods of Ethnography (3 cr.)**

**E407 Visual Anthropology: Filmmaking (3 cr.)**

**E510 Problems in African Ethnography and Ethnology (3 cr.)** P: E310 or consent of instructor. Seminar in anthropological problems related to Africa. Selected topics. May be repeated for credit.

**E511 Ethnography of the Congo (2 cr.)**

**E525 Comparative Ethnology of North America (3 cr.)** P: A505 or E500; E320; A506; or consent of instructor. Seminar on comparative problems of North American Indian cultures. May be repeated for credit.

**E607 Hasidic Culture and Oral Tradition (3 cr.)**

The contemporary Hasidic community is studied in terms of its history, beliefs and values, and unique social system. Factors affecting continuity and change, religious revitalization, and sect development will be considered. Special attention will be given to Hasidic tales, as well as plays, memoirs, and anthropological studies.

**E610 Seminar in Households, Family, and Gender (3 cr.)** Asks how basic social units like family and household are socially constructed and maintained. Current literature on social exchange, bargaining, decision-making, and gender. Pressing current issues such as child welfare, equity in economic development, abusive relationships, and consumer choice.

**E617 African Women (3 cr.)** Examines the remarkably active roles that African women play in their communities. Follows the themes

of autonomy and control of resources, considering both economic resources, such as land, labor, income, and cattle, and social resources, such as education, religion, and political power.

**E652 Ethnohistory of Modern Greece (3 cr.)**

Addresses the burgeoning interest in European ethnography, and more particularly the growing interest in modern Greece as an important locus for the examination of theoretical issues concerning the fieldworker's reflexivity and consciousness of the historical context of entanglement in research. It also articulates with an increased commitment to the anthropological study of Aegean archaeology.

**E673 Feminist Studies and Ethnographic Practice (3 cr.)**

Focuses on the impact of feminist theory on ethnographic practice in the fields of anthropology and criminology. We will read key works from the 1980s to the present which exemplify various feminist approaches to the study of culture and society.

**E687 The Ethnography of Europe (3 cr.)**

Explores "Europe" as an idea, an identity, and a historical consciousness. Students discuss how European ethnography has acquired a valued status in social anthropology, how it has been instituted as a "cultural area," and how the discipline constantly revises social, cultural, political, and nationalist boundaries.

**E692 The United States (3 cr.)** Reviews current ethnographic studies of the United States, emphasizing themes of cultural diversity, relationships between individuals and their communities, and the roles of public institutions at local, state, and federal levels.

#### **Ethnology**

**E372 Racism: Anthropology of Prejudice (3 cr.)**

**E406 Anthropological and Documentary Film (3 cr.)**

**E420 Economic Anthropology (3 cr.)**

**E425 Ethnozoology: Studies in American Indian Subsistence (3 cr.)**

**E427 Cultural Ecology (3 cr.)**

**E430 Kinship Organization (3 cr.)**

**E440 Political Anthropology (3 cr.)**

**E445 Medical Anthropology (3 cr.)**

**E450 Folk Religions (3 cr.)**

**E451 Myth and Legend: Cultural Meanings and Interpretations (3 cr.)**

**E453 Revitalization Movements (3 cr.)**

**E455 Anthropology of Religion (3 cr.)**

**E457 Ethnic Identity (3 cr.)**

**E460 The Arts in Anthropology (3 cr.)**

**E462 Anthropological Folklore (3 cr.)**



- include the nature of moral traditions; civil rights; family, privacy and choice; the significance of race.
- E650 African Systems of Thought (1-3 cr.)**  
Examines approaches to the analysis of systems of thought and their correlates in social action in African societies. Focuses on structural differences among the various systems of ideas used for interpreting experience in different African societies. Attention paid to alterations made in cosmological systems in situations of social change.
- E660 Arts in Anthropology Seminar (3 cr.) P:**  
E460. Anthropology's concern with the arts; cross-cultural study and comparison; the relationships of the arts to other aspects of society and culture; problems of the cross-cultural validity of aesthetics and the interrelationships of the arts.
- E661 Seminar in Ethnomusicology I (3 cr.)**  
Techniques of transcription and analysis of the music of nonliterate peoples.
- E662 Seminar in Ethnomusicology II (3 cr.)**  
Music as it functions in human society. Role of the musician, concepts underlying production of musical sound, symbolic and other functions of music.
- E670 Seminar in Culture and Personality (3 cr.)**  
Seminar for the investigation of advanced problems in culture and personality. Focus will be primarily on developments since 1960, particularly in such areas as the situational determinants of personality, cognitive growth, and adolescent studies.
- E675 Law and Culture (3 cr.)**  
Introduction to classic anthropological writing on cultural concepts of law, conflict, and social ordering, concentrating on ethnographic approaches since the 1960s. Focus is cross-cultural, following the emphasis of the works themselves on Africa, native North America and the contemporary United States. Discussions emphasize the historical context of individual works and critical readings from the vantage points offered by contemporary anthropological theory.
- E680 Seminar in Culture Change (3 cr.) P:**  
Three courses in cultural anthropology, including the courses listed under both ethnology and ethnography, and consent of instructor. Researches by students under the instructor's supervision, group discussions, and occasional lectures on various problems concerning culture change.
- E681 Seminar in Urban Anthropology (3 cr.)**  
P: E580. Seminar in cross-cultural urban social organization, emphasizing recruitment manifestation of urbanism in various cultural contexts and techniques of investigation. Practical work required.
- E463 Anthropology of Dance (3 cr.)**  
**E470 Psychological Anthropology (3 cr.)**  
**E480 Theory of Culture Change (3 cr.)**  
**E500 Proseminar in Cultural and Social Anthropology (3 cr.)**  
Broad survey covering economics, ecology, kinship, life cycle, education, social stratification, political organization, religion, values, culture change, evolution, methodology, etc.
- E505 Social Organization and Process (3 cr.)**  
Anthropological analysis of sociocultural process from symbolic interactionist perspective. Topics include critical comparison of relevant theories, cross-cultural applications, and methodology of field research.
- E520 Problems in Economic Anthropology (3 cr.) P:**  
consent of instructor. Seminar on problems related to the study of technologies and economic systems of non-Western peoples.
- E600 Seminar in Cultural and Social Anthropology (3 cr.)**  
Subject will vary; students may thus receive credit more than once.
- E601 Basics of Human Sexuality (3 cr.)**  
Topics are (1) introductory lectures on mammalian behavior, anatomy, physiology, reproduction, and sexual development; (2) solitary sexual behavior; orgasm in sleep and masturbation; (3) heterosexual behavior; (4) homosexual behavior; (5) deviance and paraphilias; and (6) social control of sexuality.
- E602 Lévi-Strauss: Structuralism in Anthropology (3 cr.)**  
Analysis of structuralist texts and theory. Reading and explicating the writings of Lévi-Strauss in order to learn how to interpret concepts and methods of the author and how to use them for further research.
- E606 Research Methods in Cultural Anthropology (3 cr.)**  
P: must be a graduate student in anthropology or obtain consent of instructor. Organization, design, and execution of anthropological research will be examined in its many contexts; specific research techniques will be demonstrated through laboratory exercises and conduct of student projects.
- E620 Seminar in Cultural Ecology (3 cr.)**  
Rotating topics in cultural ecology: explores cultural adaptations to specific environments. Emphasis is placed on individual research by students, discussion of relevant theoretical and methodological issues, and critical evaluation of research.
- E641 Law as Cultural Practice in the United States (3 cr.)**  
Explores modern life in the U.S. through two lenses: contemporary ethnography and recent Supreme Court opinions. Specific topics vary. Examples
- psycholinguistics, Weltanschauung theory, diglossia, bilingualism, and single language society; relevance of linguistic analysis to cultural and social anthropology.
- L501-L502 Anthropological Linguistics I-II (3-3 cr.)**  
An introduction to grammatical discovery procedure, including phonetic, phonemic, morphemic, and syntactic analysis, designed to introduce the student to techniques for use with an unknown language in the field.
- L510 Elementary Lakota (Sioux) Language I (3 cr.)**  
Introduction to Lakota (Sioux), an American Indian language spoken on the northern plains of the United States. Focuses on developing elementary reading and writing skills as well as oral fluency in the Lakota language within the context of Lakota culture.
- L511 Elementary Lakota (Sioux) Language II (3 cr.)**  
Introduction to Lakota (Sioux), an American Indian language spoken on the northern plains of the United States. Focuses on developing elementary reading and writing skills as well as oral fluency in the Lakota language within the context of Lakota culture.
- L512 Intermediate Lakota (Sioux) Language I (3 cr.)**  
Study of more complex Lakota grammatical structures, with emphasis on development of active reading, writing, and speaking skills.
- L513 Intermediate Lakota (Sioux) Language II (3 cr.)**  
Study of more complex Lakota grammatical structures, with emphasis on development of active reading, writing, and speaking skills.
- L518 Navajo Language and Culture (3 cr.)**  
Introduction to the Navajo language and an exploration of it as an integral dimension of Navajo culture. Topics include Navajo history, kinship, ritual life, beliefs, and literature, and will be grounded in the appropriate dimensions of Navajo grammar. Provides a case study to review the major issues in the field of language and culture.
- L520 American Indian Languages (3 cr.)**  
Introductory survey of the native languages of the Americas. Topics include history of the study of American Indian languages, genetic and typological classifications, structures of selected languages, the comparative (historical) study of selected language families, and the interplay between language and culture. Emphasizes diversity of New World languages.
- L580 Semiotics and Human Ethnology (2 cr.)**  
Study of the relationship between the general theory of signs and the biological study of behavior under three headings: elaboration of theoretical models, study of animal communication systems as a natural and behavioral science, and their exploitation for the benefit of humankind.
- E682 Memory and Culture (3 cr.)**  
Students will interrogate the concept of "collective memory," based on Halbwachs' major contribution in the domain. This social scientific analysis of remembrance as culturally determined will review diverse contexts in which it unfolds, (i.e. art, fiction, ritual, architecture, bodily practice, national identity, and politics).
- E690 Development and Anthropology (3 cr.)**  
E420 or consent of instructor. The theory of development; the way anthropology has been employed in development schemes in Melanesia, Southeast Asia, India, Africa, and elsewhere; the practical problem of relating to development bodies such as AID and Third World governments; the ethical problem of such relationships.
- Graduate**  
**G731 Seminar on Contemporary Africa (cr. arr.)**
- History of Anthropology**  
**E635 French Social Thought: Anthropological Perspectives (3 cr.)**  
Students will read and explicate the writings of six prominent scholars in twentieth-century French social thought, (i.e., Durkheim, Mauss, Lévi-Strauss, Barthes, Foucault, and Bourdieu). They will discuss these thinkers' contributions to contemporary anthropological theory, and will reflect on the usage of these works in their respective doctoral projects.
- H500 History of Anthropological Thought in the Nineteenth and Twentieth Centuries (3 cr.)**  
Development of nineteenth-century and contemporary anthropological thought, with special reference to methods and theory of scientific anthropology.
- H501 Contemporary Problems and Issues in Ethnological Theory (3 cr.; 6 cr. max.) P:**  
Introductory work in anthropology. Special attention to problems arising from relation of cultural anthropology to other social sciences, such as psychology and history.
- H503 History of Social Anthropology (3 cr.) R:**  
course in social organization. Seminar on development of social anthropology, with special attention to various "schools," such as functionalism, and to major figures from Edward Tylor to Alfred Radcliffe-Brown.
- H506 Modern Development in Social Anthropology (3 cr.)**  
Seminar on development of social anthropology since World War II, with special attention to contributions of influential Cambridge, Manchester, and London "schools."
- Anthropological Linguistics**  
**L500 Proseminar in Language and Culture (3 cr.)**  
Relationships of language and culture; survey of ethnolinguistics, sociolinguistics,



**L600 Topical Seminar in the Ethnography of Communication (3 cr.)** Current issues in linguistic anthropology, designed to acquaint the student with readings and points of view not covered in the introductory courses. Topics such as (1) languages of the world, (2) variation in language, (3) problems in linguistic structure, and (4) culture and communication. May be repeated for credit with change of topic.

**L605-L606 Field Methods in Anthropological Linguistics I-II (3-3 cr.)**

**L840 Ethnolinguistic Seminar (1-2 cr.)** P: consent of instructor. Structural statements and arrangements of data in anthropology (including folklore and musicology) and linguistics. May be repeated for credit.

**Archaeology**

**P301 Archaeological Methods and Analyses (3 cr.)**

**P310 Prehistory of Europe and Asia (3 cr.)**

**P314 Early Prehistory of Africa (3 cr.)**

**P315 Late Prehistory of Africa (3 cr.)**

**P360 Prehistory of North America (3 cr.)**

**P361 Prehistory of Midwestern United States (3 cr.)**

**P365 Prehistory of Western North America (3 cr.)**

**P370 Ancient Civilizations of the Andes (3 cr.)**

**P371 Prehistory of Lowland South America (3 cr.)**

**P380 Prehistoric Diet and Nutrition (3 cr.)**

**P405 Field Work in Archaeology (cr. arr.)**

**P425 Zooarchaeology I: Faunal Osteology (5 cr.)**

**P426 Zooarchaeology II: Problems in Zooarchaeology (5 cr.)**

**P500 Proseminar in Archaeology (3 cr.)** Gives the entering graduate student background in history and frames of reference of archaeology; emphasis on place of archaeology in anthropology.

**P505 History of Theory in Archaeology (3 cr.)** Seminar on the development of theoretical constructs and "schools" in prehistoric archaeology. Focus on thought of major figures such as V. G. Childe, J. G. D. Clark, D. Clarke, L. R. Binford, J. C. Gardin, A. C. Renfrew, and W. W. Taylor.

**P506 Laboratory Methods in Archaeology (1-6 cr.)** P: P405 or consent of instructor.

Specialized training in laboratory procedures and analysis of archaeological materials. Major categories of material culture to be studied include lithics, ceramics, faunal and floral remains. Emphasis is on processing, sorting, identifying and analyzing material recovered from the previous Field School in Archaeology (P405).

**P509 Archaeological Ethics (3 cr.)** Explores the professional responsibilities of archaeologists

by examining timely issues, such as the differences and, sometimes, conflicts between international law and professional ethics, and between archaeologists and others (e.g., Native Americans, antiquities collectors) who affect and are affected by archaeological work. Some background in archaeology is helpful.

**P600 Seminar in Prehistoric Archaeology (3 cr.)** Subject will vary; students may thus receive credit more than once.

## Anthropology and Health

**Indianapolis**

**Departmental URL:**

<http://www.iupui/it/anthropo/grad.htm>

**Graduate Faculty**

**Director** Professor W. Kenneth Barger, Anthropology, Cavanaugh Hall 413, (317) 274-8207

**Professors** W. Kenneth Barger, David Burr, Della Collins Cook, Paul Jamison, Robert Meier (Emeritus), Herman J. Saatkamp (Philosophy, Medical Genetics), Richard Ward

**Associate Professors** Jeanette Dickerson-Putman, Eleanor Donnelly (Nursing), Vimalkumar R. Patel\* (Pathology), Dixie W. Ray (Nursing)

**Assistant Professor** Richard Gunderman\* (Philosophy, Radiology)

The graduate minor in anthropology and health is an integrated field of 12 credit hours of study designed to supplement the graduate training of students with an interest in careers in the health field. The program has three goals: to provide students a holistic perspective on the anthropology of health, which integrates human biology, ecology, and culture in a systems model of health; to develop the students' anthropological inquiry skills in understanding health in human groups; and to develop students' abilities to apply anthropological concepts and skills to health interventions in the areas of their career focus. The graduate minor in anthropology and health will provide students with training that will add greater depth and breadth to their qualifications in their major field. They will be able to use the cross-cultural and biocultural perspectives of anthropology to supplement their primary graduate training to better prepare them for a career in the health fields. This focused training will enable students to use anthropological concepts and skills to identify biocultural factors in the occurrence of disease, to understand ethnic behavior related to illness, and to identify

where health programs across social and ethnic lines can be made more effective.

**Course Requirements** Twelve (12) hours of credit approved for the minor in anthropology and health with a grade point average of at least 3.25, including E445; A594; one course selected from B521, B523, B525, E404, E606, and L605; and one elective.

**Courses**

**E445 Medical Anthropology (3 cr.)** A cross-cultural examination of human biocultural adaptation in health and disease, including biocultural epidemiology; ethnomedical systems in the presentation, diagnosis, and treatment of disease; and sociocultural change and health.

**A594 Independent Learning in Applied Anthropology (3 cr.)** P: Authorization of instructor. Independent research/training using anthropological perspectives/methods in addressing social issues. The project must be a discrete activity with a concrete product conducted in conjunction with the student's anthropology advisor and the member of the organization where he or she will be located. (May be repeated for no more than 6 credit hours total.)

**Research Methods in the Anthropology of Health**

**B521 Bioanthropology Research Methods (3 cr.)**

**B523 Anthropometry (3 cr.)**

**B525 Genetic Methods in Anthropology (3 cr.)**

**E404 Field Methods in Ethnography (3 cr.)**

**E606 Research Methods in Cultural Anthropology (3 cr.)**

**L605 Field Methods in Anthropological Linguistics (3 cr.)**

**Electives**

Electives in the anthropology of health (3 cr.) Electives will be selected from approved anthropology courses offered at Indianapolis and Bloomington, in consultation with the minor advisor.

## Apparel Merchandising and Interior Design

**College of Arts and Sciences  
Bloomington**

**Chairperson** Reed Benhamou\*

**Departmental e-mail:** [stikelea@indiana.edu](mailto:stikelea@indiana.edu)

**Graduate Faculty**

**Professor** Kathleen Rowold,\* Reed Benhamou\*

**Associate Professors** C. Thomas Mitchell\*  
**Academic Advisor** Professor Reed Benhamou, Memorial Hall 232, (812) 855-5223  
**Degree Offered** Master of Science

**Special Departmental Requirements**  
(See also general University Graduate School requirements.)

**Master of Science Degree**

**Admission Requirements** (1) Eighteen (18) semester hours of undergraduate credit in apparel merchandising, interior design, or related fields or both (e.g., economics, sociology, psychology, studio art, art history, architecture, biology), nine of which must be at the junior or senior level (for Interior Design those hours must be from an accredited interior design or architecture program); and (2) the Graduate Record Examination General Test.

**Course Requirements** A minimum of 34 credit hours, to include H550, a 3-credit seminar or readings course in area of concentration, H598 Research, Thesis H599 or Project H597 (if project is selected, a total of 37 credit hours is required), and a graduate course in statistics.

**Fields of Study** Individualized programs are available in two different areas: textiles and apparel; and interior design.

**Final Examination** Oral defense of the thesis; for those not electing thesis, a comprehensive written examination.

**Courses**

**H401 Cultural Aspects of Dress (3 cr.)**

**H413 Apparel Merchandise Planning and Analysis (3 cr.)**

**H415 Readings in Textiles and Apparel (cr. arr.)**

**H504 Textiles and Apparel in the Global Economy (3 cr.)** P: graduate standing.

Research and analysis of economic issues that affect the development of textiles and apparel at the global level. Critical analysis of labor and development theories and international relations will be included. Global sourcing, production and import/export strategies will be addressed.

**H506 Fashion Analysis and Theory (3 cr.)** P: graduate standing. In-depth study and critical analysis of classic and modern fashion theories, with emphasis placed on postmodern fashion theory development. Students are expected to make significant progress toward new theoretical development of fashion theory.

**H510 Apparel Entrepreneurship (3 cr.)** P: graduate standing, AMID H413 or equivalent. R: accounting and research methods. Research and development of individualized plans for decision making, problem solving, and opening a small apparel-related retail business. Developing, implementing, and analyzing entrepreneurial strategies, financial goals, methods of accounting and control, and merchandising, operation, and management skills.

**H511 Behavioral Aspects of Dress (3 cr.)** P: graduate standing. Theories from social psychology will be employed in research examining clothing and appearance and their effects on the self and others.

**H512 Recent Developments in Textiles (3 cr.)** New developments in textiles; analysis of quality control and production standards; evaluation of current problems.

**H519 Special Problems: Textiles and Apparel (1-3 cr.)** P: consent of department. Independent work in analysis and interpretation of various aspects of textiles and apparel field. May be repeated for a maximum of 6 credits. Topic may vary.

**H550 Research Methods in Apparel Merchandising and Interior Design (3 cr.)** Evaluating and understanding of research; identifying needed research; planning a research problem.

**H567 Trends in Interior Design (3 cr.)** P: H475 or H476 or equivalent, consent of department. Changing patterns in interior design; contemporary furnishings.

**H568 Contemporary Issues in Design (3 cr.)** P: graduate standing. Contrast between traditional and emerging views of design will be explored in terms of the design philosophy which arose in response to industrialism/modernism and the subsequent reactions to and against it, such as postmodernism, deconstruction, and New Design.

**H573 Special Problems: Interior Design (1-3 cr.)** P: consent of department. Independent work in advanced interior design problems. May be repeated for a maximum of 6 credits.

**H575 The Productive Work Place (3 cr.)** P: graduate standing. Design of non-residential interior environments through the application of research into the effect of physical factors on productivity in the workplace.

**H576 Design for Diverse Communities (3 cr.)** P: graduate standing. Design of interior spaces that enhance community-specific needs and lifestyles.

**H580 Seminar in Consumer Issues (3 cr.)** P: consent of department. Varying topics dealing with consumer interests and family economics.

**H590 Workshop in Apparel Merchandising and Interior Design (1-3 cr.)** P: consent of department. Workshop in current issues, trends, programs. Emphasis varies and is announced in workshop title. May be repeated for a maximum of 6 credits.

**H597 Projects (1-4 cr.)** P: H550 and consent of department. Individual application of student's area of study to the solution of a problem under supervision of an approved advisor; not open to students who select a thesis program.

**H598 Research (1-3 cr.)** P: H550, a course in statistics, and consent of department. Independent investigation in area of interest under supervision of advisor. May be repeated for a maximum of 6 credits.

**H599 Thesis (1-6 cr.)** P: H550 or equivalent, course in statistics. Individual research under supervision of an approved advisor.

## Applied Statistics

School of Science  
Indianapolis

**Director** Associate Professor Krzysztof Podgorski

### Graduate Faculty

**Professor** Benzion Boukai, Robert M. Kleyle

**Associate Professors** Krzysztof Podgorski, Jyotirmoy Sarkar

**Assistant Professor** Michael D. Ernst

**Academic Advisor** Associate Professor Krzysztof Podgorski, Department of Mathematical Sciences, LD 270, IUPUI, (317) 274-8070

## Ph.D. Minor in Applied Statistics

The Department of Mathematical Sciences in the School of Science at IUPUI has developed a master's degree program in mathematical sciences with a specialization in applied statistics. Accordingly, some doctoral students in the Department of Basic Medical Science in the School of Medicine may find it useful to have a minor in applied statistics as an additional option in their program of study.

**Course Requirements** Twelve (12) hours of credit in courses approved for the minor in applied statistics, including STAT 511, STAT 512, and 6 additional credit hours chosen in consultation with the minor representative. For students in Medical and Molecular Genetics, a common option would be to take two of the courses from 524, 525, and 533. Statistical Quality Control (513) might be a desirable elective for students in Pharmacology and Toxicology. Students who have successfully completed Q650 Biostatistics I and Q651

Biostatistics II in the School of Medicine will be exempted from STAT 511.

**Examinations** The determination of procedures for meeting the requirements for the minor and the examination procedure prior to admittance to candidacy will be at the discretion of the student's minor representative on his or her advisory committee from the Department of Mathematical Sciences.

### Courses

#### Core Courses

STAT 511 Statistical Methods (3 cr.)

STAT 512 Applied Regression Analysis (3 cr.)

#### Other Courses

STAT 513 Statistical Quality Control (3 cr.)

STAT 514 Design of Experiments (3 cr.)

STAT 515 Statistical Consulting Problems (3 cr.)

STAT 519 Introduction to Probability (3 cr.)

STAT 520 Time Series and Applications (3 cr.)

STAT 522 Sampling and Survey Techniques (3 cr.)

STAT 523 Categorical Data Analysis (3 cr.)

STAT 524 Applied Multivariate Analysis (3 cr.)

STAT 528 Mathematical Statistics I (3 cr.)

STAT 529 Bayesian Statistics and Applied Decision Theory (3 cr.)

STAT 530 Mathematical Statistics II (3 cr.)

STAT 532 Elements of Stochastic Processes (3 cr.)

STAT 533 Nonparametric Statistics (3 cr.)

## Arts Administration

### Bloomington

#### Interdepartmental Graduate Committee on Arts Administration

Professors Geoffrey Conrad (Anthropology), Leon Brauner (Theatre and Drama), Associate Professor Adelheid Gealt (Fine Arts)

**Academic Advisor** Sycamore Hall 346, (812) 855-0282

#### Degree Offered

Master of Arts

This program is designed to train men and women to manage and promote arts centers, arts commissions and councils, and performing and visual arts organizations of all kinds.

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** An undergraduate degree in fine arts, music, theatre and drama, business, or economics, with an outstanding academic record strongly recommended. Students who have not completed the prerequisites A200 Foundations of Accounting (nonbusiness majors) and M300 Introduction to Marketing (or their equivalents) can be admitted but must make up these deficiencies. Graduate Record Examination General Test (verbal and quantitative portions) required. Because of course sequencing, only fall enrollment is recommended.

## Master of Arts Degree

**Course Requirements** A minimum of 39 credit hours, including Arts Administration Y550, Y650, Y651, and Y750; Education C585 or HPER R515; Business L575; M540-M544 or M550; Z515-Z516 or Z518-Z519 or SPEA V525; 3 credit hours selected from Arts Administration Y525, Music U511 or U412, or Theatre and Drama T585; 3 credit hours selected from twentieth-century fine arts (excluding A576) or from other twentieth-century history of music or theatre and drama courses listed below; plus 9 credit hours of electives to be selected in consultation with the program director (see listings below for acceptable courses; other courses may be approved by the program director).

**Grades** A grade point average of 3.0 (B) or higher must be maintained.

## Doctoral Minor in Arts Administration

**Course Requirements** The doctoral minor in Arts Administration must include a minimum of 21 hours plus prerequisites.

### Courses

**Prerequisites** A200 Foundations of Accounting (non-business majors) and M300 Introduction to Marketing (or their equivalents).

**General Management** (9 credit hours) Education C585 or HPER R515; Business M550; M540 and M544 or M546; Z515 and Z516 or Z518 and Z519 or SPEA V525.

**Management** (3 credit hours) Theatre and Drama T585 or Music U511 or U412 or Arts Administration Y525.

**Arts Administration** (9 credit hours) Y550, Y650, Y651.

A minimum of B is required in each course to be counted toward the arts administration minor.

## Courses

### Arts Administration

**Y525 Museum Management (3 cr.)** P: consent of instructor. Management of art and historical museums. The museum: its legal status, the building, management and staff, goals and objectives, fundraising and budgeting, collections and exhibitions, and education and community outreach.

**Y550 Practicum in Arts Administration (3 cr.)** Managerial and administrative experience in three of six arts groups: Musical Arts Center, Department of Theatre and Drama, IU Auditorium, IU Foundation, IU Art Museum, or Mathers Museum.

**Y650-Y651 Seminar in Arts Administration (3-3 cr.)** P: 9 credit hours of courses in business or consent of instructor. Two-semester seminar involving the promotion of the arts: planning, management, labor relations, fundraising, funding sources, communications, and similar topics in relation to arts centers, museums, and performing organizations. Course includes guest speakers and semester-long consultancies with arts organizations.

**Y680 Readings in Arts Administration (cr. arr.)** P: consent of instructor and departmental chairperson. Supervised readings in arts administration.

**Y690 Independent Study in Arts Administration (cr. arr.)** P: consent of instructor and department chairperson.

**Y750 Internship in Arts Administration (3 cr.)** The internship is ordinarily not taken until the student's last semester of course work. A minimum of one semester or its equivalent of field work or internship in a managerial office of a museum, theatrical or musical organization, or community, state, regional, or national arts council.

### Anthropology

**A403 Introduction to Museum Studies (3 cr.)**

**A405 Museum Methods (3 cr.)**

**A408 Museum Practicum (1-4 cr.)**

### Business

**A505 Power, Persuasion, Influence and Negotiation (1.5 cr.)**

**L575 Legal Aspects of the Arts (3 cr.)**

**M540 Services Marketing (1.5 cr.)**

**M544 Managing Advertising and Sales Promotion (1.5 cr.)**

**M550 Customer-Oriented Strategies (3 cr.)**

**Z515 Reward Systems (1.5 cr.)**

**Z516 Staffing Systems (1.5 cr.)**

**Z518 Technology Tools for Managing Human Resources Systems (1.5-3 cr.)**

**Z519 Aligning Business and Human Resource Strategy (1.5-3 cr.)**

### Economics

**E540 Labor Economics: Graduate Survey (3 cr.)**

### Education

**C585 Principles of Fundraising Management (3 cr.)**

**C595 Legal Aspects of Philanthropy (3 cr.)**

### Fine Arts

**A442 Twentieth-Century Art, 1900-1924 (4 cr.)**

**A449 Twentieth-Century Art, 1925-1970 (4 cr.)**

**A474 Art Theory IV (4 cr.)**

**A576 Art, the Artist, and the Law (2 cr.)**

**A590 Museum Studies (4 cr.)**

### HPER

**R515 Fundraising in Public and Nonprofit Agencies (3 cr.)**

### Journalism

**J542 Arts, Media, and Society (3 cr.)**

**J552 Seminar: Reporting the Arts (3 cr.)**

**J560 Topics Colloquium (3 cr.)**

### Music

**M525 Survey of Operatic Literature (3 cr.)**

**M530 Contemporary Music (3 cr.)**

**M542 Music History Review for Graduate Students II (3 cr.)**

**M564 History and Literature of Opera IV (3 cr.)**

**M656 Twentieth-Century Music (3 cr.)**

**M688 Twentieth-Century Vocal Literature (3 cr.)**

**U412 Music Theatre Management (3 cr.)**

**U511 Concert Management (3 cr.)**

### Religious Studies

**R770 Social Ethics (3 cr.)**

### SPEA

**V525 Management in the Nonprofit Sector (3 cr.)**

### Theatre and Drama

**T573 Studies in Modern and Contemporary Theatre (3 cr.)**

**T585 Theatre Management (3 cr.)**

## Astronomy

College of Arts and Sciences  
Bloomington

Chairperson Professor R. Kent Honeycutt

### Departmental e-mail:

request@astro.indiana.edu

### Departmental URL:

http://www.astro.indiana.edu/

## Graduate Faculty

**Professors** Haldan N. Cohn, Richard H. Durisen, Frank K. Edmondson (Emeritus), Richard Heinz, (Physics), R. Kent Honeycutt, Hollis R. Johnson (Emeritus), Phyllis M. Luggner, Stuart L. Mufson

**Associate Professor** Martin S. Burkhead (Emeritus)

**Assistant Professors** Constantine P. Delyiannis, Michael J. Pierce

**Senior Scientist** Charles Bower

**Graduate Advisor** Professor Richard H. Durisen, Swain Hall West 319, (812) 855-6921

**Degrees Offered** Master of Arts and Doctor of Philosophy. The department also participates in the Ph.D. program in astrophysics.

### Research Facilities

**Members of the astronomy department use the WYIN (Wisconsin-Indiana-Yale-National Optical Astronomy Observatories) 3.5m telescope to carry out research in optical astronomy. This advanced-technology telescope is optimized for multiobject spectroscopy, including a high-spectral-resolution mode, and high-spatial-resolution imaging. Indiana University holds a 17% share of the WYIN facility. Two fully robotic telescopes are located in the Morgan-Monroe State Forest 16 miles from campus. These are a 0.4m telescope that is used for automated CCD photometry and a new 1.25m telescope to be used for automated spectroscopy. A remote observing center in the department is equipped for communication with both the WYIN and local telescopes. The high-energy astrophysics group carries out research with underground and balloon-borne particle detectors that are developed within the department. Several instrument development labs and a machine shop support the optical and high-energy research programs.**

Research in the astronomy department is supported by excellent computer facilities at Indiana University. These include powerful workstations and servers within the astronomy department, an SGI Origin2000 shared-memory parallel supercomputer, an IBM RS/6000 SP distributed-memory parallel supercomputer, a computer automated virtual environment (CAVE), and a high-performance mass storage facility.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

### Admission Requirements

A good preparation for graduate work in astronomy or astrophysics requires the same training in physics and mathematics needed for a bachelor's degree in physics, plus a familiarity with the subject matter of introductory astronomy or astrophysics courses, such as A201-A202 or A451. An undergraduate major in astronomy, astrophysics, physics, or mathematics that has provided such a background is usually required for admission. Any necessary undergraduate courses to strengthen students' backgrounds will not receive graduate credit.

All graduate applicants must submit Graduate Record Examination scores on both the General Test and the Subject Test in physics. Scores should be sent directly to the department, not to the University Graduate School.

## Master of Arts Degree

**Course Requirements** A minimum of 30 credit hours, including any three astronomy graduate core courses (see below).

**Thesis** A thesis may be required at the discretion of the department. Students for whom the thesis requirement is waived must still complete a project that demonstrates research proficiency.

**Final Examination** An oral examination must be passed covering general astronomy at the A451 level, the core courses applied toward the degree, and the thesis research.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours. Graduate study is organized around six required core courses: A505, A520, A550, A570, A575, and A580. Normally, each of these courses is offered every other year, and they may be taken in any sequence. The remainder of the graduate program consists of elective courses, seminars on advanced topics, research, and dissertation.

**Grades** Grades below B (3.0) in core courses may be counted toward degree requirements only at the discretion of the department.

**Minor** Most doctoral candidates in astronomy minor in physics or scientific computing. Other minors may be permitted at the discretion of the department.

**Qualifying Examination** In order to be advanced to candidacy, a student must pass a written examination covering the core course

material plus general astronomy at the A451 level. The examination may be taken no more than twice. The examination is usually offered once a year during the fall semester. In its current form, it has six equally weighted sections corresponding to the six core courses.

**Final Examination** Oral defense of the dissertation.

## Courses

The 400-level course listed here and described in the College of Arts and Sciences Bulletin is open to graduate students at the discretion of the department.

**A451 Introductory Astrophysics (3 cr.)**

**A505 Principles and Techniques of Observational Astronomy (4 cr.)** P: consent of instructor. Principles and techniques of astronomical data acquisition and reduction. Practical experience in photography, photoelectric photometry, spectroscopy, and astronomical applications of electronic detectors.

**A520 The Interstellar Medium (3 cr.)** P: consent of instructor. Structure and dynamics of the interstellar medium; review of observations and theory of interstellar gas, dust, and radiation.

**A540 Stellar Atmospheres (3 cr.)** P: consent of instructor. Structure of atmospheres and formation of spectra.

**A550 Stellar Interiors (3 cr.)** P: consent of instructor. Physical properties of stellar material; structure and evolution of stars.

**A570 Galactic Dynamics (3 cr.)** P: consent of instructor. Principles of stellar dynamics. Analytic and computer methods. Applications to the galaxy and its star clusters.

**A575 Structure and Evolution of Galaxies (3 cr.)** P: consent of instructor. Structure and evolution of galaxies, large-scale clustering of galaxies, active galactic nuclei, and quasars.

**A580 Physical and Observational Cosmology (3 cr.)** P: consent of instructor. Observational basis for current cosmological theory. Early universe evolution, cosmic microwave background radiation, formation of cosmic structure.

**A590 Graduate Reading Course (cr. arr.)** Independent reading in astronomy and astrophysics.

**A770 Seminar in Astrophysics (1-4 cr.)** Selected topics of current research interest in astrophysics; includes topics such as stellar astrophysics, interstellar matter, planetary physics, high-energy astrophysics, and extragalactic astrophysics.

**A780 Seminar in Astronomy (cr. arr.)** Selected topics of current research interest in astronomy, such as observational techniques,

instrumentation, galactic and extragalactic astronomy, and cosmology. May be repeated. S/F grading

**A890 Introduction to Research (cr. arr.)** Literature and methods of astronomical research.

**A899 Research (cr. arr.)** Observational and theoretical investigations of current problems.

## Astrophysics

**G630 Nuclear Astrophysics (3 cr.)**

**G650 High Energy Astrophysics (3 cr.)**

**G750 Topics in Astrophysical Sciences (1-3 cr.)**

## Astrophysics

**College of Arts and Sciences  
Bloomington**

### Interdepartmental Graduate Committee on

**Astrophysics** Professor Stuart L. Mufson (Astronomy), Chairperson; Professors Andrew Bacher (Physics), Haldan Cohn (Astronomy), Richard H. Durisen (Astronomy), Alan Kostelecky (Physics), James Müsser (Physics); Assistant Professor Constantine Deliyannis (Astronomy); Senior Scientist Charles Bower (Physics)

**Academic Advisor** Professor Richard H. Durisen, Swain Hall West 319, (812) 855-6921

**Degree Offered** Doctor of Philosophy. The Astrophysics program is administered jointly by the Department of Astronomy and the Department of Physics through the interdepartmental committee named above. Interested students must first gain admission to one of these departments and then petition the committee for entrance into the program after establishing departmental residency. Students may qualify for a master's degree in astronomy or physics while in this program. The astrophysics committee plays an administrative role only. Doctoral dissertations in astrophysics may be directed by any qualified member of the graduate faculty.

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** A student should have the combined admission requirements of doctoral students in astronomy and physics, i.e., a thorough undergraduate training in physics and mathematics, plus familiarity with general astronomy at the level of A201-A202 or, preferably, A451. Deficiencies must be removed early, usually without graduate credit.

**Course Requirements** A total of 90 credit hours, including the following courses or their equivalents: Physics P506, P511, P521, and P556; four courses from among Astronomy A505, A520, A540, A550, A570, A575, and A580; one course from among P507, P512, P637, G630, and G650 or a fifth astronomy core course; and dissertation.

**Minor** By meeting the course requirements for this degree, a student from the Department of Astronomy will automatically fulfill the requirements for a minor in physics, and a student from the Department of Physics will automatically fulfill the requirements for a minor in astronomy.

### Foreign Language/Research-Skill

**Requirement** A student in the Astrophysics program must meet the foreign language/research-skill requirements (if any) of the department of residence.

**Grades** Grades below B (3.0) in astronomy and physics courses may be counted toward degree requirements only with the consent of the astrophysics committee.

**Qualifying Examination** A student must pass specially designated parts of the qualifying examinations of both departments: specifically, half of the physics qualifying examination, which emphasizes classical mechanics, electromagnetism (through Chapter 6 of Jackson, *Classical Electrodynamics*), and statistical physics, plus half of the astronomy qualifying examination. In its current form, the astronomy qualifying examination consists of six sections corresponding to the six astronomy core courses. An astrophysics student must choose three of these sections in advance of the examination and then must take and pass those three sections. The examination requirements must be satisfied by the end of the student's sixth semester in residence. The department of residence may also specify its own deadline for passage of the examination it administers.

**Final Examination** Oral defense of dissertation.

## Courses

### Graduate

**G630 Nuclear Astrophysics (3 cr.)** P: A451, P453-P454, or consent of instructor. R: A550, P511. Applications of nuclear physics to astronomy. Fundamental properties of nuclei and nuclear reactions. Element synthesis and energy generation in the big bang, stellar interiors, and supernovae. Discussion of current topics: cosmological nucleosynthesis, solar neutrino flux, explosive nucleosynthesis, high-energy nuclear processes.

**G650 High Energy Astrophysics (3 cr.)** Covers cosmic rays from the perspective of astrophysics and high energy particle physics. Examples of topics that may be included are the production, propagation, and interactions of cosmic rays as well as the experimental detection of cosmic rays. Subtopics include atmospheric and solar neutrinos, magnetic monopoles, point sources of cosmic rays, neutrino oscillations, air showers, and stellar collapse detection.

**G750 Topics in Astrophysical Sciences (1-3 cr.)** A seminar in astrophysics with special emphasis on subjects involving more than one department. Examples of such topics include planetology, nucleosynthesis, nuclear cosmochronology, isotopic anomalies in meteorites, particle physics of the early universe, and atomic processes in astrophysical systems.

## Institute for Biblical and Literary Studies

**College of Arts and Sciences  
Bloomington**

**Director** Associate Professor Herbert Marks

## Graduate Faculty

**Distinguished Professors** Willis Barnstone (Emeritus, Comparative Literature, Spanish and Portuguese), Linda Dégh (Emerita, Folklore)

**Chancellors' Professor** Stephen Stein (Religious Studies)

**Professors** James Ackerman (Emeritus, Near Eastern Languages and Cultures, Religious Studies), Ernest Bernhardt-Kabisch (Emeritus, Comparative Literature, English), Lawrence Clopper (English), Henry R. Cooper Jr. (Slavic Languages and Literatures), Alfred David (Emeritus, English), Kenneth R. R. Gros Louis (Comparative Literature, English) James Halporn (Emeritus, Classical Studies), Kenneth Johnston (English), Peter Lindenbaum (English), Carroll Nelson (Classical Studies), Samuel Preus (Emeritus, Religious Studies), Stephen Wailes (Germanic Studies)

**Associate Professors** David Brakke\* (Religious Studies), Herbert Marks (Comparative Literature, English, Near Eastern Languages and Cultures), Michael Satlow (Religious Studies), Steven Weitzman\* (Religious Studies), Nicholas Williams\* (English)

**Academic Advisor** Associate Professor Herbert Marks, Ballantine Hall 914, (812) 855-7070

The Institute for Biblical and Literary Studies is an interdisciplinary consortium that aims to bring together the critical study of the Bible, the history of biblical interpretation, and the theory and practice of literary criticism.

Depending on background and interest, students may concentrate on biblical texts and languages, literary criticism, or the history and theory of interpretation. Study of ancient languages is strongly encouraged. Students with previous training in biblical studies will be advised to devote more time to courses in literary theory and Western literature; those with a stronger background in classical or modern literature will be advised to concentrate on the biblical text and its cultural setting. The institute offers a Ph.D. minor and a certificate that may be earned concurrently. Students participate in a regular seminar (I600), which, like most institute courses, combines close reading of specific texts with larger issues of methodology. Prospective students interested in pursuing the M.A. or Ph.D. degree are urged to apply first to one of the affiliated departments, such as comparative literature (for literary theory) or religious studies (for biblical studies).

### Ph.D. Minor in Biblical Literature

The Ph.D. minor in biblical literature is available to all doctoral students not specializing in biblical studies; four courses in biblical literature and in the history of biblical interpretation are required. Courses should be selected in consultation with the director of the institute.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the minor.

### Certificate in Biblical and Literary Criticism

The certificate is available to doctoral students in all departments and to special students from outside Indiana University who wish to do advanced interdisciplinary work in biblical and literary studies.

**Course Requirements** Eight courses in biblical literature, the history of biblical interpretation, and the theory and practice of literary criticism, including I600. The selection of courses should be made in consultation with the director of the institute. In certain cases, two of the eight courses may be in a biblical language. Courses that study biblical or exegetical sources in a national literature may also be counted.

**Language Requirement** Proficiency in biblical Hebrew or Greek, to be certified by the completion of N472 or G308 or their

equivalent, or by an examination administered by the relevant language department.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the certificate.

### Courses

**I600 Colloquium in Biblical and Literary Studies (4 cr.)** Study of selected biblical texts and critical issues with attention to the interrelations between traditional modes of interpretation and current literary theory. May be repeated for credit when the topic differs.

### Anthropology

**E451 Myth and Legend (3 cr.)**

**E455 Anthropology of Religion (3 cr.)**

### Classical Studies

**C405 Comparative Mythology (4 cr.)**

**G301-G302 Classical Greek: Accelerated Courses (3-3 cr.)**

**G308 Readings in Biblical Greek (3 cr.)**

**G611 Greek Papyrology (4 cr.)**

**L505 Medieval Latin (4 cr.)**

### Comparative Literature

**C501 Introduction to Contemporary Literary Studies (4 cr.)**

**C503 Topics in World Criticism and Theory I (4 cr.)**

**C504 Topics in World Criticism and Theory II (4 cr.)**

**C505 Western Literary and Intellectual Traditions to 1500 (4 cr.)**

**C506 Western Literary and Intellectual Traditions after 1500 (4 cr.)**

**C545 The Bible and Western Tradition (4 cr.)**

**C580 History and Theory of Translation (4 cr.)**

**C601 Studies in the History of Theory and Criticism (4 cr.)**

**C602 Contemporary Theoretical Issues and Approaches (4 cr.)**

**C641 Literature in its Intellectual and Cultural Contexts (4 cr.)**

**C643 Literary Studies and the Social Sciences (4 cr.)**

**C644 Literary Studies and Psychoanalysis (4 cr.)**

**C645 Literary Studies and Religion (4 cr.)**

**C801 Directed Research in Comparative Literature (cr. arr.)**

### English

**G660 Stylistics (4 cr.)**

**L605 Critical and Interpretive Theory (4 cr.)**

**L608 History of Literary Criticism (4 cr.)**

**L705 Problems in Language, Literature, and Literacy (4 cr.)**

**L707 Studies in Literary Theory and Criticism (4 cr.)**

### Folklore

**F527 Folk Poetry and Folksong (3 cr.)**

**F545 Folk Narrative (3 cr.)**

**F734 Folklore and Literature (3 cr.)**

### French and Italian

**F564 Approaches to Literary Criticism (3 cr.)**

**F584 Stylistics and Semantics (3 cr.)**

### Near Eastern Languages and Cultures

**N416 Comparative Talmudic Literature (3 cr.)**

**N471-N472 Biblical Hebrew I-II (3-3 cr.)**

**N586 Medieval Hebrew Literature (3 cr.)**

### Religious Studies

**R511 Religion of Ancient Israel (3 cr.)**

**R521 Studies in the New Testament (3 cr.)**

**R531 Studies in Christian History (3 cr.)**

**R532 Studies of Religion in American Culture (3 cr.)**

**R541 Studies in the Jewish Tradition (3 cr.)**

**R610 Studies in Biblical Literature (4 cr.)**

**R590 Directed Readings in Religious Studies (cr. arr.)**

**R663 History of Biblical Interpretation (3 cr.)**

### Semiotic Studies

**S601 Introduction to Semiotic Studies (3 cr.)**

## Biochemistry

### BLOOMINGTON PROGRAM

(DEPARTMENTS OF BIOLOGY AND CHEMISTRY)

### College of Arts and Sciences

**Director** Professor John Richardson

**Departmental e-mail:** chemgrad@indiana.edu

### Departmental URL:

<http://www.chem.indiana.edu/biochemistry>

## Graduate Faculty

**Earl Blough Professor (Chemistry)** George Christou

**Lilly Chemistry Alumni Chair (Chemistry)** Milos Novotny

**Clyde Culbertson Professor of Biology** Carl Bauer

**Distinguished Professors (Emeritus, Biology),** Frank Gurd (Emeritus, Chemistry), Milos Novotny (Chemistry), Jeffrey Palmer (Biology), Frank Putnam (Emeritus, Biology), Anthony San Pietro (Emeritus, Biology)

**Professors** Peter Cherbas (Biology), Harry Day (Emeritus, Chemistry), Thomas Donahue (Biology), Ruth Gurd (Emerita, Medical Sciences), George Hegeman (Biology), W. Terry Jenkins (Emeritus, Chemistry), John Richardson (Chemistry), Milton Taylor (Biology), Robert Togasaki (Emeritus, Biology)

### Associate Professors

Alan D. Bender (Biology), Jose Bonner (Biology), Yves Brun\* (Biology), David Daleke (Medical Sciences), Cheng Kao (Biology), Joseph Near (Pharmacology), Stefan Surzycki (Biology), Theodore Widlanski (Chemistry)

### Assistant Professors

Donald Burke\* (Chemistry), Andrew Feig\* (Chemistry), Evelyn Jabri\* (Chemistry), Martha Oakley\* (Chemistry), Alexander V. Skurat\* (Medicine), Martin Stone\* (Chemistry), Claire E. Walczak\* (Medicine)

**Graduate Advisor** Professor Jack Crandall, Chemistry Building C121, (812) 855-2069

**Degrees Offered** Master of Science and Doctor of Philosophy

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate course work must include two semesters of organic chemistry, at least one semester of physical chemistry, at least one semester of biochemistry, and 8 credit hours of biology. Deficiencies must be removed during the first year of graduate study.

## Master of Science Degree

**Course Requirements** A minimum of 30 credit hours, of which 20 credit hours must be in course work other than research, including 12 credit hours in biochemistry and 6 credit hours in basic, graduate-level chemistry and biology courses.

**Thesis** Required.

**Final Examination** Oral, covering thesis and major.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, of which a minimum of 12 credit hours must be in biochemistry courses at the C580 or C680 level (usually C581, C582, C584, and C585). C590 also required, to be taken during first year of study.

**Minor** A doctoral student in biochemistry may minor either in a field of chemistry or in some other department. In the latter case, the requirements are specified by the minor department. Students electing to minor within the department must complete a minimum of 6 credit hours in one specific area of chemistry

other than the major area. The sequence of courses comprising the minor must be approved by the student's advisory committee.

**Qualifying Examinations** To remain in good standing, a student must pass monthly cumulative examinations at the prescribed rate: one by the end of the second semester, three by the end of the third, five by the end of the fourth. At least four examinations must be in biochemistry (biological chemistry). The other may be in some other area of chemistry. In the fifth semester, students meet with their advisory committee to review past performance and to evaluate plans for completing the Ph.D.

**Final Examination** Oral, covering dissertation, major, and minor.

**Ph.D. Minor in Biochemistry** Students from other departments who wish to minor in biochemistry must complete at least 6 credit hours of graduate course work in biochemistry with an average of B (3.0) or above.

## Courses

### Biology

**L585 Molecular Genetics (3 cr.)** P: L364 and C483 or equivalent. The molecular basis of genetic interactions, with emphasis on microbial systems. The course covers the molecular mechanisms of mutation, suppression, recombination, complementation, etc., as well as mechanisms for gene transfer in bacteria and bacteriophage. The application of genetic analysis to a variety of molecular biological topics is emphasized.

**L586 Molecular Analysis of Cell Biology (3 cr.)** Critical analysis of recent advances in our understanding of molecular organization of cellular structures and of their mode of function. The primary interest of this course concerns the eukaryotic cell.

**L587 Biochemical Analysis of Growth and Development (3 cr.)** P: consent of instructor, and C483. Emphasis on the ontogeny of specific tissues and organs, such as cartilage formation and pancreas differentiation, including structural changes, regulation of nucleic acid and protein synthesis, and the isolation and characterization of specific macromolecules. Content varies from year to year.

### Chemistry

**C483 Biological Chemistry (3 cr.)**

**C484 Biomolecules and Catabolism (3 cr.)**

**C500 Introduction to Research (2-6 cr.; 6 cr. max.)** Objectives and techniques of chemical research. Assignment of research problem to be completed during two semesters.

### C580 Medical Biochemistry (3 cr.)

Biochemistry for medical students, emphasizing structure-function relationships of cellular components and biosynthesis and degradation of simple and complex cell constituents as well as regulation of metabolic pathways. Includes biochemical basis for genetic continuity and expression of hereditary characteristics.

### C581 Function and Structure of

**Macromolecules (3 cr.)** P: C483 or C484 or equivalent. Structure and conformation of proteins and nucleic acids; thermodynamics and kinetics of biochemical reactions.

### C582 Enzymology and Intermediary

**Metabolism (3 cr.)** P: C581 or consent of instructor. Chemistry of enzymatic reactions; coenzymes; cell structure; metabolism; carbohydrates, lipids, and amino acids; biological oxidation; metabolic regulation.

### C583 Physiological Biochemistry (3 cr.)

P: C483. To develop a sound and rigorous biochemical background for students in medicine and allied health sciences; biochemistry of physiological and pathological processes; role of heredity and environmental factors; effect on macromolecules; macromolecular aggregates, and cells.

### C584 Biosynthesis of Macromolecules (3 cr.)

P: C581 or L502. Biosynthesis of complex polysaccharides, nucleic acids, and proteins; their specification, regulation, and control.

### C585 Structure and Function of Biological

**Membranes (3 cr.)** P: C581 or consent of instructor. Chemistry and biology of lipids and membrane proteins.

### C615 Bioanalytical Chemistry (1.5-3 cr.)

P: C511, C512. Survey of modern analytical techniques, including spectrochemical, electrochemical, and separation methods used in biochemical analysis and their applications. (May be given in alternate years.)

### C681 Structure and Reactivity of Proteins

(3 cr.) P: C581. Supplements and extends C581; emphasis on chemical synthesis and modification; stability and thermodynamics; complex proteins such as lipoproteins, metalloproteins, and glycoproteins.

### C682 Advanced Enzymology (3 cr.)

P: C581, C582, or consent of instructor. This course supplements the basic enzymology offered in C582. The course emphasizes the kinetics of enzymatic reactions, mechanisms of organic catalysis, and current research methods in enzymology. There will be two lectures and one student presentation each week.

### C684 Metabolism of Complex Molecules

(2-3 cr.) P: C581, C582. An advanced course dealing with the metabolism and regulation of complex biological structures and events, among them lipids and lipoproteins; polysaccharides; contraction, motion and

division; electron transport and energy transduction, and the regulation of highly integrated cellular functions.

### C687 Seminar: Advanced Topics in

**Biochemistry (1-3 cr.)** P: consent of instructor. Topics vary yearly and include the following: physico-chemical techniques in the study of macromolecules; experimental methods in enzymology; organic chemistry of enzymatic reactions and enzyme models; conformational properties and macromolecules.

### C688 Seminar: Biological Chemistry (1-3 cr.)

P: consent of instructor. Recent advances in such areas as biological oxidations, energetics and equilibria, hormones, and nutrition. May be repeated for credit.

### C880 Research: Biological Chemistry (cr. arr.)\*

### INDIANAPOLIS PROGRAM

(DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY)

### School of Medicine

**Chairperson** Professor Robert A. Harris

**Departmental e-mail:** biochem@iupui.edu

### Departmental URL:

<http://www.biochemistry.iu.edu>

### Graduate Faculty

**Showalter Professors** David M. Gibson (Emeritus), Robert A. Harris

**Professors** David Allmann, William Bostron, Donald Bowman (Emeritus), Anna DePaoli-Roach, Howard Edenberg, Rose Fife (Medicine), Mark Goebel, Jean Hamilton-Steinrauf, Edwin Harper, Maureen Harrington, Hiramagalar N. Jayaram, Peter Roach, Roger Roeske, Arthur Schulz (Emeritus)

**Associate Professors** Thomas Hurley, Suk-Hee Lee,\* Ronald Wek

**Assistant Professors** John W. Hawes,\* Lawrence Quilliam,\* David Timm\*

### Associate Biochemistry Faculty

**Distinguished Professors** Morris Aprison (Emeritus, Neurobiology), Ting Kai Li (Medicine)

**Professors** W. Marshall Anderson (Northwest Center for Medical Education), Walter Balcavage (Emeritus, Terre Haute Center for Medical Education), Martin Bard (Biology), Philip Breitfeld (Pediatrics), David Crabb (Medicine), Rose Fife (Medicine), Theodore Gabig (Medicine), Ruth Gurd (Emerita, Medical Sciences, Bloomington), George Guthrie (Emeritus, Evansville Center for Medical Education), Larry Jones

(Medicine), Mark Kelley (Pediatrics), Lawrence Lumeng (Medicine), William McBride Jr. (Neurobiology), Byron Olson (Dentistry), Barth Ragatz (Fort Wayne Center for Medical Education), John Richardson (Bloomington), Jay Simon (Neurobiology), Godfrey Tummichiff (Evansville Center for Medical Education), Mervin Yoder Jr. (Pediatrics)

**Adjunct Professor** Robert Blickenstaff, Renee C. Lin (Medicine)

**Associate Professors** Simon Atkinson\* (Medicine), Dring Crowell (Biology), David Daleke (Bloomington), Donald L. Durden, Shao-Ling Fong (Ophthalmology), Robert Hromas (Medicine), Michael W. King (Terre Haute Center for Medical Education), Edward McKee (South Bend Center for Medical Education), Stephen Randall (Biology), Kent Redman\* (Fort Wayne Center for Medical Education), David Skahnik (Pediatrics), Theodore Widlanski (Bloomington)

**Adjunct Associate Professor** Robert A. Dean\* (Pathology), Thomas Stephens (Affiliate Graduate Faculty Status), Terry Vik\* (Medicine)

**Assistant Professors** Kristin Chun,\* Mark Deeg\* (Medicine), Joseph Dynlacht\* (Radiation Oncology), Harikrishna Nakshatri\* (Medicine), Simon Rhodes\* (Biology), James Walsh\* (Medicine)

**Assistant Scientist** Dan Spandau\* (Medicine)  
**Adjunct Assistant Professor** Ronald R. Bowsler (Affiliate Graduate Faculty Status)

**Graduate Advisor** Professor Mark Goebel  
Medical Science Building 4071, (317) 274-2055

**Degrees Offered** Master of Science and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements and departmental brochure.)

**Admission Requirements** Two semesters of calculus and organic chemistry are required for admission. These courses or their equivalent can be taken during the first year of graduate study. It is strongly recommended that students take an introductory course in biochemistry prior to enrollment. The General Test of the Graduate Record Examination is required; the subject test in biochemistry, chemistry, or biology is recommended.

### Master of Science Degree

**Course Requirements** A minimum of 30 credit hours, including the core curriculum courses B807, B810, C817, and C865 or any three core courses plus C841, C890 or C910; and at least 6 credit hours, but not more than 9

credit hours, in research. Participation in student seminar, B890, is required.

**Final Examination** Oral, covering thesis and course work.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, of which a minimum of 32 credit hours must be in courses other than research, including the core curriculum courses B807, B810, G817, and G865. Participation in student seminar, B890, is required every semester of residence.

**Grades** A minimum grade point average of 3.0 (B) must be maintained in all nonresearch course work.

**Minor** A minimum of 12 credit hours in one of the following programs: life science, physical science, anatomy, biomathematics, biophysics, chemistry, computer science, mathematics, medical genetics, microbiology, neurobiology, pathology, pharmacology, physics, physiology, or toxicology.

**Minor in Molecular Biology** See entry under "Microbiology and Immunology".

**Minor in Life Science** A minimum of 12 credit hours outside the student's major department, chosen from the biological sciences or from the following departments: anatomy, biochemistry, biophysics, dental sciences, medical genetics, microbiology, pathology, pharmacology, physiology, toxicology. At least 6 credit hours must be taken in one of the listed departments or in the biological sciences. The minor program must be approved by the student's advisory committee, the minor representative on which must be selected from one of the departments in which courses for the minor are taken.

**Ph.D. Minor in Biomathematics** The minor in biomathematics is designed to provide graduate students in the programs in biological science with sufficient formal training in mathematics to prepare them to work in an area of biological research that is mathematically oriented. The prerequisites for the minor are: (1) 10 credits of calculus (MATH 163, MATH 164, or equivalent); and (2) CSCI 220 and CPT 360; CSCI 300, CSCI 320, or the equivalent. The minor requires at least 15 credits chosen from the following courses: MATH 262, MATH 511, MATH 519, CSCI 461, CSCI 512, CSCI 543, EE 583, G650, G651, Q652, Q653, F704, and B848. The minor must include MATH 262, or equivalent.

<sup>1</sup>See the bulletin of the Purdue University School of Science at Indianapolis.

<sup>2</sup>See the bulletin of the Purdue University School of Engineering and Technology at Indianapolis.

<sup>3</sup>See the School of Medicine Bulletin.

**Qualifying Examinations** Students meet once every six months with their advisory committee to review progress in course work and the dissertation research proposal. Usually, at the completion of the second

semester of study, students sit for a written qualifying examination. The final examination in the series is an oral defense of a written research proposal. The nature of the examination over the minor is determined by the member of the advisory committee representing that area. It may consist of a separate examination but is usually part of the written and oral examinations. Continuation of a student in the program depends upon satisfactory performance and progress in each phase of the program.

**Dissertation** A minimum of 45 credit hours in research, completed with a grade point average of 3.0 (B) or above. It is expected that the dissertation will qualify for publication in a recognized journal.

**Final Examination** Oral, covering dissertation, major, and minor.

### Courses

**B500 Introductory Biochemistry (3 cr.)** P: C341 or equivalent. Structures of carbohydrates, proteins, lipids, and nucleic acids. Basic principles of enzyme catalysis, protein synthesis, intermediary metabolism, and nutrition.

**B800 Medical Biochemistry (3 cr.)** P: one semester of organic chemistry. Structure and function of biological molecules, regulation of cellular processes by nutrients and hormones, biochemical and molecular basis of disease.

**B803 Advanced Biochemistry (cr. arr., max. of 3 cr.)** Tutorial instruction in biochemistry.

**B807 Protein Structure and Function (3 cr.)** P: two semesters of organic chemistry; one semester of biochemistry. Physical forces stabilizing protein structure; protein folding. Essential features of macromolecular interactions. Introduction to enzyme kinetics and chemical mechanism in enzyme reactions.

**B808 Physical Biochemistry (3 cr.)** P: two semesters of physical chemistry; two semesters of calculus; one semester of biochemistry. Thermodynamics and biophysical chemistry of protein, enzymes, nucleic acids, and membranes.

**B809 Advanced Organic Chemistry (1-3 cr.)** P: two semesters of organic chemistry; two semesters of physical chemistry; B807 or consent of instructor. Tutorial instruction in organic chemistry, as applied to biochemistry.

**B810 Cellular Biochemistry and Regulation (3 cr.)** P: two semesters of organic chemistry; one semester of biochemistry. Fundamental pathways of metabolism, with emphasis on the

mechanisms of metabolic regulation. Mechanisms of signal transduction and the control of cellular function by hormones, growth factors, and other extracellular regulators.

**B811 Advanced Intermediary Metabolism (1-3 cr.)** P: B810. Tutorial instruction in specialized areas of metabolism.

**B813 Chemistry of Steroids (3 cr.)** P: two semesters of organic chemistry. Isolation, structure, and determination. Chemical properties and synthesis of the steroids.

**B814 Advanced Enzymology (1-3 cr.)** P: B807 or B810. Tutorial instruction in enzyme isolation and kinetics.

**B830 Biochemical Nutrition (3 cr.)** P: two semesters of organic chemistry; one semester of biochemistry. Metabolic utilization of biological fuels. Components required in animal nutrition; essential amino and fatty acids, vitamins, and trace elements. Biochemical derangements in nutritional deficiencies, metabolic disease states, and starvation.

**B835 Neurochemistry (3 cr.)** P: two semesters of organic chemistry; one semester of biochemistry, or consent of instructor. Metabolism of nervous system tissue. Neurochemical techniques.

**B836 Advanced Topics in Neurochemistry (2 cr.)** P: B835 or equivalent. Selected topics in neurochemistry dealing with specialized functions of the nervous system.

**B842 Instrumentation and Methods of Analysis II (3 cr.)** P: two semesters of organic chemistry; one semester of biochemistry.

**B848 Mathematics for Biochemistry (3 cr.)** Differential equations and topics in advanced calculus.

**B854 Introduction to Research (1 cr.)** P: two semesters of organic chemistry; two semesters of physical chemistry, one semester of biochemistry, or consent of instructors. Tutorial and laboratory instruction in biochemistry. Purpose is to introduce students in biochemistry to three different research programs.

**B855 Research (cr. arr.)**

**B857 Biochemistry of Exercise (3 cr.)** P: B800, B810, or consent of instructors. Study of the biochemical and physiological changes in the human body due to exercise and consequence of long-term exercise programs.

**B858 Physical Chemistry (3 cr.)** P: one year of physical chemistry. Quantum chemistry and molecular spectra. Statistical mechanics and thermodynamics. Kinetics. Liquid state.

**B859 Advanced Physical Chemistry (1-3 cr.)** P: B808 or B858. Tutorial instruction in physical chemistry as an extension of either B808 or B858.

**B860 Biophysical Protein Chemistry (3 cr.)** P: two semesters of physical chemistry; two semesters of calculus. Physical chemistry of particular interest to the biologist. Chemical and physical properties of protein. Multiple equilibria, radiation interactions, transport phenomena.

**B868 Advanced Molecular Biology (1-3 cr.)** P: C865 or equivalent. Tutorial instruction in specialized area of molecular biology.

**B890 Seminar (1 cr.)**

**G804 Cellular and Molecular Biology (3 cr.)** P: One semester of organic chemistry. Cellular and molecular biology that emphasizes the structural organization, biochemistry and molecular biology of cells. Includes cellular processes, development and differentiation and their relationship to medicine.

**G817 Eukaryotic Cell Biology (2 cr.)** P: one semester of biochemistry. Organization and function of subcellular structures. Intracellular coordination of cell activity; protein and RNA trafficking, chromatin dynamics, and intracellular processing of receptor mediated signals.

**G841 Methods of Protein Chemistry (3 cr.)** P: B500 or equivalent. Discussion and laboratory instruction in modern methods for protein purification, analysis of purity, peptide mapping, and amino acid sequencing.

**G865 Fundamental Molecular Biology (3 cr.)** P: B800 or equivalent. Principles of molecular structure, function, and biosynthesis; core information regarding prokaryotic and eukaryotic gene continuity and metabolic coordination; introduction to multicellular systems and problems. (Joint program: biochemistry, medical genetics, microbiology.)

**G890 Methods in Molecular Biology and Pathology (3 cr.)** P: G865 and/or J838, and consent of instructor. Basic principles and techniques in molecular biology and pathology. Particular emphasis will be on molecular techniques that can be used to study problems related to biochemistry and pathology.

**G910 Advanced Molecular Biology Methods (3 cr.)** P: C865 and/or G890 and consent of instructor. Advanced theory and techniques in molecular biology. The focus of the course will be on techniques related to manipulation of cloned DNA to study their expression, structure and function.

## Biology

College of Arts and Sciences  
Bloomington

**Chairperson** Distinguished Professor Jeffrey Palmer



## Graduate Faculty

**Clyde Culbertson Professor** Carl Bauer  
**Distinguished Professors** Howard Gest (Emeritus), Charles Heiser (Emeritus), Thomas Kaufman, Jeffrey Palmer, John Preer (Emeritus), Frank Putnam (Emeritus, Biochemistry), Anthony San Pietro (Emeritus)  
**Professors** Peter Cherbas, Keith Clay, Sears Crowell (Emeritus), Thomas F. Donahue, Gerald Gastony, George Hegeman, Ellen Ketterson, Arthur Koch (Emeritus), Curtis Lively, Paul Mahlberg (Emeritus), George Malacinski, Carlos Miller (Emeritus), Craig Nelson, Val Nolan (Emeritus, Law), David Parkhurst (Public and Environmental Affairs), Elizabeth Raff, Rudolf Raff, J. C. Randolph (Public and Environmental Affairs), Loren Rieseberg, William Rowland, Albert Rutesink, Drew Schwartz (Emeritus), Susan Strome, Milton Taylor, Robert Togasaki (Emeritus), Maxine Watson, Eugene Weinberg (Emeritus), Meredith West (Psychology), David White (Emeritus), Donald Whitehead (Emeritus), Frank Zeller (Emeritus)  
**Associate Professors** Alan D. Bender, José Bonner, Edmund Brodie III, Yves Brun,\* Yean Chooi-Odle, Lynda Delp, Roger Hangarter, George Hudock, Roger Innes, Cheng Kao, William Saxton, Stefan Surzycki, Michael Tansey, Miriam Zolan  
**Senior Scientist** Lucy Cherbas\*  
**Adjunct Professors** David Dilcher (Geological Sciences), Elisabeth Lloyd (History and Philosophy of Science), John Richardson (Chemistry), Roderick Suthers (Medical Sciences), Nicholas Toth (Anthropology), Daniel Willard (Emeritus, Public and Environmental Affairs), William Timberlake (Psychology)  
**Adjunct Associate Professors** David Daleke (Medical Sciences), Anton Neff (Medical Sciences), Flynn Picardal (Public and Environmental Affairs), Henry Prange (Medical Sciences), Ted Widlanski (Chemistry)  
**Adjunct Assistant Professors** Donald Burke\* (Chemistry), Andrew Feig\* (Chemistry), Evelyn Jabri\* (Chemistry), Vicki Meretsky,\* Martha Oakley,\* Martin Stone\* (Chemistry)  
**Director of Graduate Studies** Professor Elizabeth Raff, Jordan Hall 325; (812) 855-1861

molecular, cellular, and developmental biology; Master of Arts and Doctor of Philosophy in plant sciences; Master of Arts and Doctor of Philosophy in zoology; and Master of Arts for Teachers.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate major in one of the biological sciences and course work in the program in which a degree is sought. A degree in a related field (e.g., chemistry, physics, or mathematics) may suffice if appropriate biology courses were included in the student's degree program. Students seeking admission to biology degree programs should apply directly to the Department of Biology. Applications must include a complete entrance form, letters of recommendation, undergraduate transcripts, and scores on the Graduate Record Examination General Test. (While it is not required that applicants also submit scores on the Subject Test in biology, it is recommended that they do so.)

## Special Requirement for the M.A. Degree

It is a biology departmental requirement that the M.A. degree be completed within five semesters, although some programs such as the M.A.T. and joint SPEA/Biology programs allow additional time.

**Ph.D. Qualifying Examination** Includes written, oral, and research components. All full-time Ph.D. students must take the qualifying examination by the end of the fourth week of their fifth semester. In the event of failure or postponement, students may retake the examination once, but no later than the end of the twelfth week of their fifth semester. Students admitted to a Ph.D. program with a master's degree from Indiana University's Department of Biology must have passed the qualifying examination by the end of their first year in the Ph.D. program.

**Final Examination** Oral defense of the dissertation before the research committee. For additional requirements in certain programs, see below.

**Other Provisions** All students enrolled in a Ph.D. program in the Department of Biology will be expected to serve as associate instructors for at least one semester, regardless of their source of support; and they must complete formal instruction in teaching methods in order to enhance their teaching skills. It is the conviction of the department that teaching experience is a vital aspect of graduate education, whether or not the

student intends to pursue a teaching career after attainment of the desired degree(s).

## ECOLOGY AND EVOLUTIONARY BIOLOGY

### Master of Arts Degree

**Course Requirements** A total of 30 credit hours, of which at least 20 credit hours must be taken in approved ecology and evolutionary biology courses. The courses that each student takes must have a coherent focus within the general field of ecology and evolutionary biology. At least one seminar should be taken each year.

**Thesis** Normally required; an alternative project may, however, be approved by the student's advisory committee.

**Final Examination** Normally includes a public research seminar and an oral defense of the thesis or alternative project before the advisory committee.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including two courses from one concentration area listed below and one course from a second area, E538 Environmental Statistics (or equivalent), and dissertation. Students must enroll in a seminar at least one semester during each of the first three years in the program.

### Concentration Area Requirements

**Ecology/Population Biology**  
E455 (SPEA) Limnology  
L575 Ecosystem Structure and Function  
L578 Advanced Population Biology  
L579 Community Ecology  
L591 Plant Population Biology-An Experimental Approach

**Evolutionary Biology**  
B555 Special Topics in Plant Systematics  
L505 Molecular Biology of Evolution  
Z560 Genetics of Populations  
L567 Evolution

**Z620 Molecular Evolutionary Genetics**

**Behavior/Physiology**  
Z460 Ethology  
P548 Neuroethology  
L560 Physiological Ecology  
Z566 Laboratory in Endocrinology  
Z620 Behavioral Ecology

**Minor** Requirements established by the minor department.

**Foreign Language/Research Skill Requirements** Determined by the student's advisory committee.

**Final Examination** In addition to the oral defense of the dissertation before the student's research committee, a public research seminar is required.

## GENETICS

## MOLECULAR, CELLULAR, AND DEVELOPMENTAL BIOLOGY

### Doctor of Philosophy Degree

Programs leading to the Ph.D. degrees in genetics, and in molecular, cellular, and developmental biology are administered by the Faculty Committee on Molecular Biology and Genetics (MBG), in collaboration with members of the Department of Chemistry. The Ph.D. in plant sciences can be pursued under the supervision of MBG or that of Ecology and Evolutionary Biology, depending upon the nature of a student's research interests.

The degrees administered by MBG are intended to serve the needs of students who wish to employ molecular and genetic approaches to problems in cell biology, developmental biology, genetics, microbiology, molecular biology, molecular evolution, and plant sciences. Students enter these two degree programs through a common portal-the Core Program of first-year study administered by the MBG. After the first year, students' advanced work is monitored by the individual degree committees.

**Common Requirements** During the first year, each student takes a common Core Program. Fall: L501, L523, L585, Chemistry C581 and C584; spring: L501, L586, L587. Biology L501 is a rotation course in which each student participates in research projects in at least three different laboratories prior to selecting a permanent research advisor and laboratory at the end of the first year. In addition, students whose native language is not English are expected to become sufficiently fluent to pass the university's Examination in English for Associate Instructors during the course of the first year.

At the end of the first year, each student selects a research advisor and laboratory. Together with the advisor, the student also selects the other members of an advisory committee of three or four faculty members appropriate to the student's intended degree and one from the prospective minor field (see below). This advisory committee guides and monitors the student's subsequent independent work and guides the student's selection of advanced courses. MBG requires that each student meet with the advisory committee at least once per year.



The MBG-administered degree programs require a total of 90 credit hours including the Core Program and at least six advanced courses (see below). They also require that each student register for Journal Club (M850 or Z620) during the second year and make two oral presentations in Journal Club during the course of his/her career. Each student must also take a Z620 course in Scientific Practices (Ethics) during the third year, and each student must teach for at least one semester.

**Grades** Every student must maintain a minimum GPA of B (3.0) in order to remain in good standing. Courses to be counted toward the Ph.D. degree must be passed with a grade of B - (2.7) or better.

**Preliminary Examination** Students in all programs take a preliminary examination at the end of the fourth semester. Students who pass this examination and complete the required course work are admitted to formal candidacy for the Ph.D.

**Satisfactory Progress Toward a Degree**  
After passing the preliminary examination, for a student to remain in "good standing" in MBG requires that sufficient progress be made toward completing a thesis. If the research advisory committee judges progress to be unsatisfactory, probation may be recommended. At the end of the probationary period (usually a semester), if the advisory committee judges the student's progress to be satisfactory, then probation will be lifted. If the advisory committee judges the student's progress to remain unsatisfactory, then the student will be required to leave the program.

**Thesis** The final requirement of each program is a Ph.D. thesis, which must be defended in a public research seminar and in a meeting of the research advisory committee.

**Advanced Courses and Minor** The MBG, in conjunction with the degree program committees, offers a program of half-semester advanced courses (Z620). The selection of courses changes each year. Courses are offered in all the degree subjects. Each program requires that its students take at least six of these courses, at least four of which should be certified by the student's committee as appropriate to the chosen degree.

Each student must select a minor field distinct from the chosen degree. Ordinarily a student will select one of the MBG degree programs other than that chosen as a minor. In those cases, the Core Program courses meet minor requirements. In some cases a student may select another minor and must meet any additional requirements set by that minor.

For students from other programs who wish to minor in one of the MBG degree areas, the

requirement is 6 credit hours of work in that field. The course selection should be approved by the director of the MBG.

### **MICROBIOLOGY**

Degree programs are available for students with interests in many areas of microbiology. Each student's curriculum is designed by the student in consultation with the graduate program director, the student's mentor, and an appointed advisory committee.

### **Master of Arts Degree with a Research Thesis**

**Course Requirements** A total of 30 credit hours. Two courses from the following courses offered in the fall semester: C483, C484, C581, C584, M440, M460, M480, L585, M800 and two courses offered in the spring semester: M416, M430, M525, L586, M612, M800. Students are expected to rotate (M500) in at least two laboratories during the fall semester and to participate in M850 (Microbiology Journal Club) each spring semester.

**Grades** A minimum of B - (2.7) in each required course.

**Thesis** Required.

**Final Examination** Oral defense of thesis.

### **Master of Arts Degree with a Library Thesis**

The department also offers a program in microbiology leading to a terminal master's degree that does not require a laboratory research project. A student enrolled in this program will write a thesis critically evaluating and reviewing some aspect of microbiology reported in the literature. All other requirements for the degree are identical to those stated above for the research-thesis Master of Arts. The degree is designed to give individuals an opportunity to pursue graduate study at the master's level without acquiring expertise in laboratory research.

### **Doctor of Philosophy Degree**

**Course Requirements** A total of 90 credit hours, including M500, C581, C584, L523 in the first fall semester and a total of three elective courses. Elective courses include: M440, M460, M480, L585 (fall), and M416, M430, M525, L586, and M612 (spring). Also required are M850 (Microbiology Journal Club) offered each spring, six advanced courses (Z620 Half-Semester Seminars) and Scientific Practices (Ethics) Z620 in the third year. During the first year, students are expected to complete three rotations (M500).

**Grades** A minimum of B - (2.7) or better in each required course.

**Advisory Committee** The committee will consist of the research advisor, one member of the microbiology faculty, a faculty representative of the student's minor field, and one or two additional members of the faculty.

**Thesis** Required.

**Final Examination** In addition to the oral defense of the dissertation before the research committee, a public seminar is required.

### **PLANT SCIENCES**

#### **Master of Arts Degree**

**Course Requirements** A total of 30 credit hours, stressing suitable advanced courses in plant sciences and cognate areas. At least 20 of the credit hours must be in the major area.

**Grades** B average (3.0) required.

**Thesis** Required. An equivalent creative project may be accepted in lieu of the thesis.

#### **Doctor of Philosophy Degree**

Ph.D. students choosing a molecular approach will follow the procedures in all respects (courses, seminars, research rotations, preliminary examination, etc., of the Genetics and MCDB (Molecular, Cellular, and Developmental Biology) graduate programs. Likewise, students choosing an organismal approach will follow the exact procedures of the Ecology and Evolutionary Biology program.

### **ZOOLOGY**

Each degree program is tailored to the specific interests and needs of the student.

#### **Master of Arts Degree**

**Course Requirements** A total of 30 credit hours, of which at least 20 credit hours must be taken in the Department of Biology.

**Grades** B average (3.0) required.

**Thesis** Required. An alternative project may be accepted in lieu of the thesis.

#### **Doctor of Philosophy Degree**

**Course Requirements** A total of 90 credit hours of advanced course work, including dissertation.

**Minor** Selected in consultation with research advisor and zoology program director.

### **Master of Arts for Teachers Degree**

The Master of Arts for Teachers in biology is offered by the University Graduate School (not the School of Education) to provide training beyond the bachelor's degree for those who intend to teach in junior or senior high school and who wish additional training in biology. Each student in the program must possess a teacher's certificate by the time the degree is conferred, with the exception of international students who intend to return to their native country.

**Admission Requirement** Bachelor's degree from a regionally accredited institution with sufficient hours in biology to enable the student to take courses carrying graduate credit.

**Course Requirements** A total of 36 credit hours, of which a minimum of 25 credit hours must be in courses in the biological sciences that carry graduate credit; the remaining 11 credit hours may be in education. All programs of study must be approved by the Master of Arts for Teachers program advisor.

**Certification Requirements** For a complete list of courses in education and other areas that are required for provisional certification, consult the School of Education Bulletin, Undergraduate Program.

### **Courses**

**M310 Microbiology (3 cr.)**  
**L313 Cell Biology Laboratory (3 cr.)** P: BIOL L113 and L211, or CHEM C342, or consent of instructor. R: BIOL L312, CHEM C484.

**M315 Microbiology Laboratory (2 cr.)**

**B351 Fungi (3 cr.)**

**B352 Summer Flowering Plants (5 cr.)**

**B364 Ethnobotany (3 cr.)**

**B371 Ecological Plant Physiology Laboratory (2 cr.)**

**B372 Ecological Plant Physiology Laboratory (2 cr.)**

**B373 Mechanisms of Plant Development (3 cr.)**

**Z373 Entomology (3 cr.)**

**Z374 Invertebrate Zoology (3 cr.)**

**Z383 Laboratory in Entomology (2 cr.)**

**M400 Biomedical Sciences Documentation (1 cr.)**

**Z406 Vertebrate Zoology (5 cr.)**

**B415 Phytogeography (2 cr.)**

**L417 Molecular Aspects of Development (3 cr.)**

**Z420 Cytology (3 cr.)**

**B423 Introduction to Paleobotany (3 cr.)**

**M430 Virology: Lecture (3 cr.)**

- M435 Viral-Tissue-Culture Laboratory (3 cr.)**  
P: CHEM C341 and BIOL L311. A detailed consideration of the human immunodeficiency virus (HIV, causative agent of AIDS). The functions of the HIV genes and how those functions affect pathology and normal cellular mechanisms.
- M440 Medical Microbiology (3 cr.)**  
Biology of Eukaryotes (4 cr.)
- M445 Experimental Molecular and Cellular Biology of the Prokaryotes (3 cr.)**  
Z460 Ethology (3 cr.)
- M460 Biology of the Prokaryotes (3 cr.)**  
Z460 Ethology (3 cr.)
- M465 Biology of the Prokaryotes: Laboratory (3 cr.)**  
Z460 Endocrinology (3 cr.)
- M473 Ecology (3 cr.)**  
Z476 Field and Laboratory Ecology (2 cr.)
- M476 Biology of Fishes (3 cr.)**  
Z479 Evolution and Ecology (4 cr.)
- M480 Microbial and Molecular Genetics (3 cr.)**  
M485 Microbial and Molecular Genetics Laboratory (3 cr.)
- Z486 Standards and Techniques of Animal Experimentation (2 cr.)**  
L500 Independent Study (cr. arr.) P: written consent of faculty member supervising research.
- M500 Introduction to Research (Microbiology) (1-6 cr.)** P: graduate standing. Objectives and techniques of microbiological research. Assignment to a research problem with a faculty member to be completed in two semesters.
- L501 Independent Study (1-6 cr.)** P: written consent of faculty member supervising work. Supervised work. S/F grading.
- L505 Molecular Biology of Evolution (3 cr.)** P: senior or graduate standing and consent of instructor. Topics include the relationship between molecular and morphological evolution, production of evolutionary change through changes in developmental processes, models for evolutionary changes in regulation of gene action, and origins of major groups of organisms.
- Z508 Advanced Ornithology (4 cr.)** P: Z406. Emphasis on avian ecology, distribution, and behavior; discussion and evaluation of recent literature. Field work includes investigation of populations of a wintering species and a breeding species.
- L510 Introduction to the Research Laboratory (3 cr.)** P: graduate standing. Objectives and techniques of biological research. Completion of a one-semester research problem with a faculty member.
- M511 Molecular Biology of Prokaryotes (3 cr.)** P: CHEM C584. The course will first develop an understanding of nucleic acid structure and function to a professional level, then use these principles to explore molecular aspects of gene expression and evolution. Emphasis will be on prokaryotes.
- M512 Molecular Biology of AIDS Virus (3 cr.)** P: CHEM C341 and BIOL L311. A detailed consideration of the human immunodeficiency virus (HIV, causative agent of AIDS). The functions of the HIV genes and how those functions affect pathology and normal cellular mechanisms.
- L520 Seminar in Genetics (cr. arr.)** P: L364 or Z420 or equivalents.
- L521 Problems in Genetics-Higher Organisms (3 cr.)** P: L364 or equivalent. Selected topics in the genetics of higher organisms emphasizing studies at the molecular level.
- L522 Advanced Eukaryotic Molecular Genetics (3 cr.)** P: consent of instructor; beginning course in genetics. Correlation of genetic data with changes in chromosome structure and number. Mechanics of chromosome behavior in crossing over and disjunction.
- L523 Critical Analysis of the Scientific Literature (1-6 cr.)** Detailed analysis of current research papers in biology. Emphasis on experimental design, research methods, interpretation of results, and suitability of controls. Generally taken in the first semester of graduate residence. Topics may vary to suit specific fields (e.g., molecular, cellular, and developmental biology and genetics, or ecological and evolutionary biology).
- M525 Topics in Microbial Biochemistry and Physiology (3 cr.)** P: graduate standing and C483 or M350 or equivalent. The course will consider topics in physiology and biochemistry of eukaryotic and prokaryotic microorganisms. Subjects include membrane physiology and regulatory networks in metabolism and gene expression.
- B530 Anatomy and Morphology Seminar (cr. arr.)** P: consent of instructor. Seminars will include current research studies in plant anatomy and morphology.
- M540 Medical Microbiology and Medical Immunology (2-5 cr.)** Basic concepts of immunology; microorganisms as agents of disease; host-parasite relationships; epidemiology; chemotherapy.
- Z540 Genetics of Populations (3 cr.)** P: consent of instructor; R: Z465, MATH M216 or equivalent. Survey of the theoretical basis of population genetics and a review of current problems and experimental findings. Content varies from year to year.
- M545 Medical Microbiology Laboratory (1 cr.)** P: M540. Laboratory experiments to illustrate material discussed in M540.
- B555 Special Topics in Plant Systematics (3 cr.)** Topics vary from year to year. Examples of subjects to be treated: phylogeny and families of flowering plants; biology of ferns, biosystematics, molecular markers in populational biology and systematics. Enrollment of advanced undergraduates encouraged.
- L555 Alternative Approaches to Teaching College Biology (2 cr.)** Frameworks for teaching college biology. Addresses different teaching objectives (knowledge, applications, scientific thinking, ethical and policy considerations); different teaching methods (lectures, readings, recitations, discussions, exercises, experiments, projects); student heterogeneity (expectations, abilities, development, learning styles); evaluation and grading; course and curriculum design; and evaluation and improvement of teaching.
- B560 Seminar in Systematics (cr. arr.)** P: consent of instructor. Topics vary each semester.
- L560 Physiological Ecology (3 cr.)** Influence of the abiotic environment on energy and material transfers in individual organisms, with emphasis on terrestrial animals.
- Z566 Laboratory in Endocrinology (2 cr.)** P: Z466. Development and structure of major endocrine glands; their role in maintaining constancy of internal environment. Limited to 12 students.
- L567 Evolution (3 cr.)** P: Graduate standing in Psychology or Biology or consent of instructor. A graduate-level course in Evolutionary Biology. Topics include quantitative genetics, population genetics, and strategic models of natural selection. Special topics include life history theory, sex and sexual selection, kin selection, shifting-balance theory, speciation, macroevolution and comparative methods.
- B570 Seminar in Physiology and Molecular Biology of Plants (cr. arr.)** P: consent of instructor.
- L570 Seminar in Ecology and Environmental Biology (1 cr.)** P: consent of instructor. Presentations and discussions of current research in evolution, ecology, and behavior. May be repeated for credit.
- B572 Photobiology (3 cr.)** P: S505 or L367 or CHEM C483 or equivalent. Biochemical and biophysical relationship between light and biological systems. Topics will include photosynthesis, visual processes, photorespiration, photolaxis, bioluminescence, and photomorphogenesis, with emphasis on photosynthesis.
- L572 Microbial Ecology (3 cr.)** Principles of microbial ecology with emphasis on the population, community, and ecosystem ecology of bacteria and fungi.
- B573 Special Topics in Plant Physiology (2-5 cr.)** P: consent of instructor. Advanced topics in plant physiology. With consent of instructor, may be taken more than once for credit.
- L575 Ecosystem Structure and Function (3 cr.)** P: L473 and L474 (or equivalent). Investigation of structure, function, homeostasis, and development at the ecosystem level of organization, including synthesis and evaluation of existing models and recent data.
- M575 Human Parasitology (3 cr.)** P: BIOL M310 and M315. Biology of human parasites focusing on their etiology, epidemiology, immunology, diagnosis, and treatment. Major groups of protozoa, helminths, and medically important arthropods covered. Independent research assigned on a special topic. Lab presents both live and fixed materials complementing lecture.
- B576 Developmental Plant Physiology (3 cr.)** P: consent of instructor. Chemically oriented; examination of substances uniquely involved in growth and development in higher plants. Application of information to lower plants only briefly discussed.
- Z576 Invertebrate Zoology Laboratory (2 cr.)** P or C: Z374. Laboratory and field studies of invertebrates, with an emphasis on experiments with living specimens.
- B577 Plant Biochemistry (2 cr.)** A comparative treatment of selected biochemical topics, emphasizing unique or important processes in plant metabolism and development.
- L578 Advanced Population Biology (3 cr.)** P: courses in ecology, genetics, and basic calculus, and permission of instructor. A detailed assessment of population-ecological and population-genetic theory, and the factors determining the size and composition of animal populations in nature.
- L579 Community Ecology (3 cr.)** P: ecology and genetics. Survey of ecological and evolutionary topics between population and selection and speciation. Major emphasis on interactions among populations (consumer-producer, competition, symbiosis, etc.) and community analysis (island biogeography, niche, diversity, and community structure).
- L580 Introduction to Research (1 cr.)** Individual faculty from the various graduate programs in biology present seminars on their research programs. Discussion between students and faculty about possible thesis research projects is encouraged.
- L581 Behavioral Ecology (3 cr.)** Integrated elements of ethology, physiology, ecology, and evolutionary biology providing a synthetic approach to animal behavior. Emphasis on integrated studies providing new insights into both evolutionary and mechanistic questions. Students are asked to analyze the literature critically and debate controversial issues actively.

**L585 Molecular Genetics (3 cr.)** P: L364 and C483 or equivalent. The molecular basis of genetic interactions, with emphasis on microbial systems. The course covers the molecular mechanisms of mutation, suppression, recombination, complementation, etc., as well as mechanisms for gene transfer in bacteria and bacteriophage. The application of genetic analysis to variety of molecular biological topics is emphasized.

**L586 Cell Biology (4.5 cr.)** Critical analysis of recent advances in our understanding of molecular organization and function of cellular structures. The emphasis of this course will be on eukaryotic cells. Topics include membrane organization, cytoskeleton assembly and functions, signal transduction, cell-cycle regulation, protein sorting, and vesicle trafficking.

**L587 Developmental Biology (4.5 cr.)** Evaluation of classical and current molecular and genetic approaches to studying development of eukaryotic organisms. A significant portion of the course is devoted to discussing recent findings from molecular genetic studies in *Drosophila* and *C. elegans*.

**L590 Seminar in Molecular, Cellular, and Developmental Biology (2 cr.)** P: consent of instructor. Presentation and discussion of topics in molecular and cellular biology as seminar by students. Topics from current literature. Concentration on a particular area each semester to be announced before registration. S/F grading.

**L591 Plant Population Biology-An Experimental Approach (3 cr.)** P: ecology course and evolution course. The mechanisms by which plants, as individuals, contribute to development of population structure. Experimental studies of intra- and inter-specific mechanisms of population regulation, reproduction, and vegetative growth. Emphasis on development and physiological characteristics which determine mode of interaction. Greenhouse projects designed and conducted by students.

**L600 Special Topics in Genetics (cr. arr.)** P: L364 or equivalent. Topics not extensively treated in other courses, e.g., population genetics, human genetics, immunogenetics, biochemical genetics of clones of mammalian cells. Topic presented will not be duplicated within three to five years. L600 carries credit in Plant Sciences, Microbiology, and Zoology programs.

**M610 Recent Advances in Microbiology (1-3 cr.)** P: graduate standing in microbiology or related area. Course content changes each semester so that over a cycle of several years, major research areas are covered. May be repeated for credit.

**M612 Microbial Development (3 cr.)** P: graduate standing or consent of instructor. An analysis of recent publications concerned with the biochemistry of development in viral, prokaryotic, and simple eukaryotic systems. The topics vary and emphasize the regulatory aspects of development. Cell differentiation and cell-cell interactions are discussed.

**Z620 Special Topics in Zoology (cr. arr.)** P: advanced undergraduate or graduate standing. Topics not extensively treated in other courses, e.g., theoretical zoology, oceanography, reservoir limnology, human ecology, critical analysis of the scientific literature, and other fields. Topics presented will be treated every three to five years.

**L800 Research (1-15 cr.)**

**M800 Research (1-12 cr.)**

**M850 Seminar (1 cr.)** P: graduate standing in microbiology or consent of instructor. Reports on assigned topics of current interest. May be repeated for credit. S/F grading.

## Business

**Kelley School of Business  
Bloomington**

**Dean** Professor Dan R. Dalton

**Departmental URL:**

<http://www.bus.indiana.edu/docweb/home.html>

## Graduate Faculty

**Distinguished Professors Emeritus** George W. Wilson (Economics), Hans B. Thorelli

**American United Life Professor** Ronald Anderson

**Bert Elwert Professor** Michael Baye

**Dale M. Coleman Chair** Janet Near

**Edward E. Edwards Professor** John Boquist

**Lawrence D. Glaubinger Professors** Marc Dollinger, Joseph Waldman (Emeritus)

**Fred T. Greene Professor** Robert Klemkosky

**Charles M. Hewitt Professor** Michael B. Metzger

**E. W. Kelley Professor** Raymond Burke

**John F. Mee Professor** Philip Podsakoff

**Frank P. Popoff Chaired Professor** Idalene Kesner

**Harold A. Poling Chair of Strategic Management** Dan Dalton

**A. L. Prickett Professor** Gerald Salamon

**Jack R. Wentworth Professor** Robert Jennings

**George W. Pinnell Professor** Michele Fratianni

**Randall L. Tobias Chair of Global Leadership**  
P. Christopher Earley

**Arthur M. Weimer Professors** John D. Long (Emeritus), Jack R. Wentworth (Emeritus)

**Professors** Franklin Acito, S. Christian Albright, Patricia Hayes Andrews (Communication and Culture), Stephen Baginski, Timothy Baldwin, Joseph Belth (Emeritus), Louis Biagioni (Emeritus), Charles Bonser (Emeritus, Public and Environmental Affairs), Harvey Bunke (Emeritus), T. James Crawford (Emeritus), Douglas Dalrymple (Emeritus), Lawrence Davidson, Daniel DeHayes Jr., George Dreher, Terry Dworkin, P. Christopher Earley, Jeffrey Fisher, Samuel Frumer (Emeritus), Paul Gordon (Emeritus), Donald Granbois, R. Jeffery Green, Robert Greenleaf (Emeritus), S. Michael Groomer, Irvin Grossack (Emeritus), William Haeblerle (Emeritus), Robert Hall, Donald Harnett, Joseph Hartley (Emeritus), John Hassell, W. Harvey Hegarty, Lester Heitger, John Helmkamp, George Hettenhouse, John W. Hill, Peggy Hite, Thomas Hustad, F. Robert Jacobs, Bruce Jaffee, Roger Jerman, Heejoon Kang, Arlen Langvardt, Jordan Leibman (Emeritus), R. Thomas Lenz, Marjorie Lyles, Vincent Mabert, David MacKay (Geography), Scott MacKenzie, Jane Mallor, Paul Marer (Emeritus), Central Eurasian Studies), David D. Martin (Emeritus), E. W. Martin Jr. (Emeritus), Joseph Miller, John Muth (Emeritus), Pekin Ogan (Emeritus), Richard Olshavsky, Dennis Organ, Clinton Oster, Schuyler Otteson (Emeritus), Robert Parry, James H. Patterson, James M. Patterson (Emeritus), William Perkins, Richard Pfister (Emeritus), Michael Phillips (Emeritus), James H. Pratt, Eric Rasmussen, William Sartoris, Howard Schaller (Emeritus), Roger Schmenner, William Scott Jr. (Emeritus), Lloyd Vann Seawell (Emeritus), Robert Shaffer (Emeritus), Michael Simkowitz, George Smerk, Daniel C. Smith, Robert Smith, Rosann Spiro, P. Ronald Stephenson, Jerrold Stern, R. Stansbury Stockton (Emeritus), James Suefflow (Emeritus), John Summers, Gregory Udell, M. A. Venkataramanan, Iris Vessey, Wayne Winston, Edgar Williams (Emeritus), Donald Wood (Emeritus)

**Associate Professors** Messod-Daniel

Beneish, Utpal Bhattacharya,\* Walter

Blaconiere, J., Douglas Blocher, Thomas

Bowers,\* Carol V. Brown, Victor Childers

(Emeritus), Anthony Cox,\* Dena Cox,

Catherine Daily, Joseph Fisher, Laura Ginger,\*

Craig Holden, Sreenivas Kamma,\* William

Kulsrud, Thomas Lyon, Richard Magjuka,

Laureen Maines,\* Anne Massey, Robert Neal,

Mitchell Novit (Emeritus), Arvind Parkhe,

Frona Powell, Richard Rogers,\* Ashok Soni,\*

Mikel Tiller, Juergen von Hagen, James Wahlen, Rockney Walters, James Wimbush

**Assistant Professors** Lance Bettencourt,\* Susan Brown,\* Timothy Crack,\* Diana Burley Gant,\* Patrick Hopkins,\* H. Shanker Krishnan,\* George Marakas,\* John Maxwell,\* Martin McCrory,\* Richard Rosen,\* Richard Shockley,\* Bradley Wheeler\*

## Chairperson of the Doctoral Program

Professor James Wimbush, Kelley School of Business BU 478, (812) 855-2739

**Degrees Offered** Doctor of Philosophy. In addition, the Kelley School of Business offers the Master of Business Administration and the Doctor of Business Administration. For details see the Kelley School of Business Bulletin, Graduate Programs.

## Special School Requirements

(See also general University Graduate School requirements.)

**Admission** To apply for admission to the doctoral programs in business, the applicant must do the following:

1. Submit a formal application (forms are available from the Doctoral Programs Office in Business). Application forms for international students should be requested from the Office of International Admissions, 300 N. Jordan Avenue, Bloomington, IN, 47405. (The international application and all supporting documents should be submitted to the Office of International Admissions.)
2. Arrange for at least three letters of recommendation to be sent from persons qualified to judge the academic potential of the applicant.
3. Arrange to take (or have already taken within four years of the date of application) either the Graduate Management Admission Test or the Graduate Record Examination General Test. These tests are prepared by the Educational Testing

Service and are administered at numerous locations throughout the United States approximately four times each year and, at less frequent intervals, in many foreign countries.

4. Submit official transcripts of all college work taken. All the above documents should be sent to:

Chairperson of the Doctoral Programs  
Kelley School of Business  
1309 E. 10<sup>th</sup> Street  
Indiana University  
Bloomington, IN 47405-1701

Appropriate application forms, detailed information on admission and financial aid, and additional program data may be obtained from the Doctoral Programs Office. The application deadline for August admission is the preceding February. (December 1 for international students.)

Early applications are urged since all spaces in particular departments may be filled before the deadline. Late applications will be honored only if space is available.

Admission to the doctoral programs in business is based on an individual's qualifications as evidenced by the application, official transcripts, scores on the Graduate Management Admission Test or the Graduate Record Examination, and, if possible, a personal interview. Prospective students' applications for admission and supporting credentials are reviewed by the doctoral program's administrative committee and by the faculty in the proposed major department.

While it is unusual, highly qualified students with career objectives clearly in mind may enter the doctoral programs in business directly from a baccalaureate program with the intention of working toward a doctoral degree. Most, however, will begin work toward the doctorate after obtaining the master's degree.

### Doctor of Philosophy Degree

**Program Requirements** The requirements for the Ph.D. program in business are fulfilled in three basic phases of study. Although these phases may overlap, the program requires a logical sequence of course work, qualifying examinations, and dissertation research.

#### Phase I

The Phase I requirements entail no minimum number of credit hours but focus instead on proficiency in business operations and the basic disciplines. The credit hours required for proficiency may be met either by exemption (through the acceptance of previous course work) or by taking courses or independent study after entering the program. Individual

departments determine the appropriate requirements for their majors.

**Teaching Development Program** All candidates for a doctoral degree in business must complete the two 1.5 semester hour teaching development seminars, or their equivalent. These seminars provide a grounding in learning and teaching styles and methods.

#### Phase II

The Phase II program of study is the central part of the student's doctoral-level course work. It is therefore critical that the courses be selected to achieve the student's educational objectives while emphasizing high levels of research and scholarship.

**Major Field** The program of study for the major is planned in consultation with the student's major-field advisor and consists of a minimum of 18 credit hours of advanced graduate work. There is no intention that the entire program of study relating to the major must be taken in the administrative department or area represented by that major field. On the contrary, students are encouraged to incorporate courses from other departments or areas into their major-field curriculum when such courses are closely related to the individual's interests and help form a logical whole.

**Minor Field** Each student selects one minor field, which requires a minimum of 9 credit hours of work beyond that expected as minimal preparation for all doctoral students.

Minors are available in each of the major fields, as well as, but not limited to: international business, economics, political science, history, mathematics, psychology, sociology, and law. The doctoral business minor provides the opportunity for the integration of other disciplines into the major area(s) of students majoring in the Kelley School of Business; it requires a minimum of 9 credit hours from a field outside the student's major field. The minor requirements for fields outside the Kelley School of Business are determined by the department in which the minor is offered. An overall GPA of 3.4 in the three courses is required.

#### Methodology and Analysis (M&A)

**Requirement** All doctoral candidates must demonstrate competency in the areas of research methodology and statistical analysis. This is a 9 credit hour requirement. This course work will help provide the foundation and special proficiency in research design and analysis necessary for candidates to conduct their research programs.

**Double Major Option** Rather than follow the major, minor, and M&A sequence, a

doctoral student may elect to have two majors. The double major candidate has the option of

(1) two majors, each with 18 credit hours or, (2) a first major with 21 credit hours plus a second major of at least 15 credit hours. There are two issues that a student electing a double major should consider. First, all double majors must pass the qualifying examination in both majors. Second, a double major is unlikely to be approved unless the student can demonstrate that a portion of the overall course work provides competency in M&A. Doctoral students may not unilaterally elect to have a double major; the student's petition for a double major must be approved by both departments as well as by the chairperson of Doctoral Programs.

**Grades** Course grades below C+ (2.3) are not counted toward degree requirements but will be included in the computation of the student's grade point average. At least a 3.4 grade point average with no grade below B- (2.7) is required in those courses taken as part of the minor field. Students must achieve an overall grade point average of at least 3.3 and earn no less than a B- (2.7) in those courses taken as part of the methodology area.

**Examinations** Evidence of the student's competence in a major field must be demonstrated by examination. Examinations may also be required in some minor fields. The examinations are designed as exercises in creative and critical thinking, not merely in recollecting facts and familiar analyses.

**Admission to Candidacy** Upon successful completion of all Phase II requirements (including all qualifying examinations), the student will be nominated to candidacy.

**Dissertation Proposal** Examination on the dissertation proposal usually comes at the close of the work in Phase II of the program. A research committee is appointed to supervise and assist each candidate. A formal oral examination, to which other doctoral students and faculty members are invited, is held on the proposal. Upon passing the examination, the candidate moves into the third phase of the program.

#### Phase III

**Dissertation** An important early part of the advanced course work through the research seminars. A minimum of 24 credit hours of dissertation credit is required, but 3 hours of credit in research seminars within the major

area may count toward this requirement. Since the dissertation represents a major research project, a year or more of full-time work in close cooperation with the candidate's committee is normally required to complete Phase III. For this reason, candidates in the Indiana University doctoral programs in business are strongly urged to remain in residence until all degree requirements have been met.

#### Defense of the Dissertation

Phase III concludes with the defense of the dissertation. The objective of the defense is to provide students with a forum for formal presentation of the results of their dissertation research. The purpose of the presentation, questioning, and discussion is to enable students to demonstrate that they have successfully completed what they set out to do, as stated at the time of the proposal defense. The dissertation defense gives the research committee a final opportunity to bring the candidate's research methods, findings, and conclusions under critical review. The candidate is expected to be able to defend all aspects of the inquiry satisfactorily.

For further information on the Doctor of Philosophy degree in business, consult the Kelley School of Business Graduate Programs Bulletin or the doctoral programs Web site: <http://www.bus.indiana.edu/docweb>.

### Ph.D. Minor in Business

Students in other departments may minor in business by completing 9 credit hours of graduate work at the 600 level or above. A specialized minor field may be selected from the major fields for business students; a non-specialized minor consists of courses from different fields. In the Kelley School of Business, courses numbered 600 or above are doctoral seminars. Courses at the 500 level are m.b.a. courses. Permission is required from the m.b.a. program for non-m.b.a. students to enroll in these courses. Interested students should contact the Doctoral Programs Office for further information about available fields and procedures to be followed, or download application forms from the Web site.

### Courses

See the Kelley School of Business Graduate Programs Bulletin for a complete list of offerings. Website: <http://www.bus.indiana.edu/docweb>.

# Central Eurasian Studies

College of Arts and Sciences  
Bloomington

Chairperson Professor Toivo Raun

Departmental e-mail: ceus@indiana.edu

Departmental URL:

<http://www.indiana.edu/~ceus>

## Graduate Faculty

**Distinguished Professors** Thomas A. Sebeok (Emeritus), Denis Sinor (Emeritus)

**Professors** İlhan Başgöz (Emeritus), Gustav Bayerle (Emeritus), Christopher I. Beckwith, Yuri Bregel (Emeritus), Gyula Döcsy, Henry Glassie (Folklore), György Kara, Paul Marer (Emeritus, Business), Felix Onas (Emeritus), Alo Raun (Emeritus), Toivo Raun, M. Nazif Shahrani, Mihály Szegedy-Maszák

**Associate Professors** Devin DeWeese,\* William Fierman, Thubten Norbu (Emeritus), Elliot Sperling

**Adjunct Associate Professor** Jamsheed Choksy (Near Eastern Languages and Cultures)

**Adjunct Assistant Professor** Paul Losensky (Near Eastern Languages and Cultures)\*

**Academic Advisor** Professor Toivo Raun, Goodbody Hall 157, (812) 855-2233. All official advising after the second semester of enrollment is done by the student's Graduate Advisory Committee.

The department offers a comprehensive program on the study of Central Eurasia, the vast heartland of Europe and Asia. Students are introduced to the area as a whole and specialize in one of the major regions within Central Eurasia. The degree program consists of two interconnected elements: a language of specialization (LOS), which gives a student access to the culture of a given region through the voices of its people; and a region of specialization (ROS), which includes courses on various aspects of the region's culture. The LOS may be any language offered regularly in the department including Estonian, Finnish, Hungarian, Mongolian, Tibetan, and Uzbek. Some regions and languages such as the Siberian region (including the Buryat, Evenki, Yakut, and other languages), the Xinjiang region (Uygur) and the Volga-Kama region (including the Chuvash, Mari, Mordvin, and other languages) are available only as individualized specializations at the Ph.D. level.

**Degrees Offered** Master of Arts and Doctor of Philosophy. CEUS also offers a dual

course not used to satisfy other requirements. Students are encouraged to take one of their electives in another Region of Specialization in the Department of Central Eurasian Studies; (3) intermediate level (6 credit hours) of one Language of Specialization taught in the Department of Central Eurasian Studies, selected according to the Region of Specialization; (4) U601, an independent study course (3 credit hours) that will serve as the M.A. Thesis Course; (5) an M.A. thesis (no credit hours) of not less than 50 and not more than 70 double-spaced pages (text and notes) which reflects the use of materials in the student's Language of Specialization or in at least one Research Language other than English; (6) demonstration of reading proficiency (no credit hours) in a modern research language such as French, German, or Russian. It is noted that the professional research methodology course requirement (3 credit hours) for a CEUS M.A. shall be satisfied by the methodology course required for the SPEA M.P.A.

**Public and Environmental Affairs Course Requirements** Thirty-six credit hours of graduate course work to be distributed as follows: (1) three professional development/practicum courses (3 credit hours) V501, V503, and V505; (2) six courses (18 credit hours) V502, V506, V517, V540, V560, V600; (3) five specialized concentration courses (15 credit hours) which may include SPEA, CEUS and other courses, to be selected in consultation with a SPEA adviser.

**Doctor of Philosophy Degree**  
**Admission Requirements** M.A. degree or its equivalent in the Department of Central Eurasian Studies. If an M.A. degree was obtained elsewhere, the student must satisfy the Department of Central Eurasian Studies course requirements for the M.A. in one of the fields of specialization described above, but need not write an M.A. thesis. (Note that students in Ph.D.-only Regions of Specialization may substitute another appropriate language taught in the department for the M.A.-level language requirement.) In addition, all Ph.D. program applicants must have achieved a minimum of a 3.5 grade point average in Department of Central Eurasian Studies course work and, before formal admission to the Ph.D. program, students must have satisfied at least one of the research language requirements of the department. For specific admission requirements and application guidelines, please contact the department.

**Course Requirements** A total of 90 credit hours, including 30 credit hours required for the M.A. degree, and at least 60 credit hours

beyond those used for the M.A. degree: four departmental courses relevant to the student's region of specialization (12 credit hours); three courses in the language of specialization and linguistics (9 credit hours); one 700-level seminar taught in the department; minors (a minimum of 24 credit hours); elective courses (12 credit hours).

**Minors** Two outside minors or one inside and one outside minor, determined upon consultation with the student's Graduate Advisory Committee. At least one outside minor must be in a disciplinary department or program corresponding to the student's chosen discipline of specialization in the Department of Central Eurasian Studies.

**Minors by Students from Other Departments** Ph.D. students majoring in other departments may take a minor in the Department of Central Eurasian Studies. This shall consist of 12 credit hours of courses taught in the department. The specific courses used to complete the minor in Central Eurasian Studies shall be approved in writing by the department faculty member who is selected by the student to serve on the student's Ph.D. qualifying committee as an outside minor representative. Students pursuing a minor are encouraged to identify a faculty advisor in the department as early as possible so that a well-integrated program of study can be established.

**Scholarly Research Language Requirement** Reading proficiency in two of the following: French, German, Russian. Substitutions, when justified by the student's field of specialization, may be permitted by the student's Graduate Advisory Committee.

**Qualifying Examination** Written and oral. The written portion of the qualifying examination will be four hours long for each of the fields in which the student is to be examined. In each field several questions will be asked.

The oral examination will be given within one week after the written examination. It will cover the same fields, with no fewer than 40 minutes devoted to each. At least three examiners will be present at the oral examination.

Marks of "high pass," "pass," and "failure" will be assigned to each field in the written and oral examinations. Unsatisfactory performance in one field of the written examination will require repetition of the examination in that field before the orals may be taken. Failing marks received in two fields of the written examination will constitute failure in the written part, and the student will not be allowed to retake the written examination during the same semester. If the

student fails the written examination twice, consent to continue work in the department will be withdrawn.

Unsatisfactory performance in one field of the oral examination will require the repetition of the examination in that field. Failing marks received in two fields of the oral examination will constitute failure in the oral part, and the student will not be allowed to retake the oral examination during the same semester. If the student fails the oral examination twice, permission to continue work in the department will be withdrawn.

**Dissertation** Required.

Final Examination Defense of dissertation.

## COURSES

### LANGUAGES

#### Chaghatay

U593 Chaghatay (3 cr.)

U594 Advanced Reading in Chaghatay (3 cr.)

#### Estonian

U341-U342 Introductory Estonian I-II (3-3 cr.)

U441-U442 Intermediate Estonian I-II (3-3 cr.)

U541-U542 Advanced Estonian I-II (3-3 cr.)

#### Finnish

U331-U332 Introductory Finnish I-II (3-3 cr.)

U431-U432 Intermediate Finnish I-II (3-3 cr.)

U531-U532 Advanced Finnish I-II (3-3 cr.)

U631 Old Finnish (3 cr.)

U632 Finnish Grammar (3 cr.)

#### Hungarian

U321-U322 Introductory Hungarian I-II

(3-3 cr.)

U421-U422 Intermediate Hungarian I-II

(3-3 cr.)

U521-U522 Advanced Hungarian I-II (3-3 cr.)

U523 Hungarian Readings (cr. arr.)

U623 History of the Hungarian Language (3 cr.)

U624 Hungarian Grammar (3 cr.)

#### Kazak

U575-U576 Introductory Kazak I-II (3-3 cr.)

U675-U676 Intermediate Kazak I-II (3-3 cr.)

#### Mongolian

U361-U362 Introductory Mongolian I-II

(3-3 cr.)

U461-U462 Intermediate Mongolian I-II

(3-3 cr.)

U561-U562 Advanced Mongolian I-II (3-3 cr.)

U566-U567 Classical Mongolian I-II (3-3 cr.)

### Tibetan

U381-U382 Introductory Tibetan I-II (3-3 cr.)

U486-U487 Intermediate Tibetan I-II (3-3 cr.)

U488 Readings in Modern Tibetan Texts (3 cr.)

U582 Old Tibetan (3 cr.)

U586-U587 Advanced Tibetan I-II (3-3 cr.)

U589 Readings in Classical Tibetan Texts (3 cr.)

U688 Readings in Tibetan Buddhist Texts (3 cr.)

### Uyur

U591-U592 Introductory Uyur I-II (3-3 cr.)

U691-U692 Intermediate Uyur I-II (3-3 cr.)

U505 Structure of Uyur (3 cr.)

### Uzbek

U353-U354 Introductory Uzbek I-II (3-3 cr.)

U453-U454 Intermediate Uzbek I-II (3-3 cr.)

U556-U557 Advanced Uzbek I-II (3-3 cr.)

### LINGUISTICS COURSES

U501 Introduction to Chuvash (3 cr.)

U502 Introduction to Yakut (3 cr.)

U504 Introduction to Mari (Cheremis) (3 cr.)

U520 Selected Topics in Central Eurasian Studies (1-6 cr.)<sup>1</sup>

U568 Mongolian Dialects (3 cr.)

U571 Uralic Languages (3 cr.)

U581 Languages of Eastern Inner Asia (3 cr.)

U584 Introduction to Manchou (3 cr.)

U600 Advanced Readings in Central Eurasian Studies (1-6 cr.)

U670 Comparative Uralic Linguistics I (3 cr.)

U671 Comparative Uralic Linguistics II (3 cr.)

U673 Typology of Central Eurasian Languages (3 cr.)

U674 Comparative Finnic (3 cr.)

U683 Altaic Linguistics (3 cr.)

U690 Comparative Turkic Linguistics (3 cr.)

U710 Seminar in Uralic Studies (3 cr.)

U720 Seminar in Inner Asian Studies (3 cr.)

U800 Research in Central Eurasian Studies (1-6 cr.)

### HISTORY AND CULTURE COURSES

U345 Finno-Ugric and Siberian Mythology and Religion (3 cr.)

U368 The Mongol Conquest (3 cr.)

U370 Uralic Peoples (3 cr.)

U394 Islam in the Soviet Union and Successor States (3 cr.)

U423 Hungarian between 1890 and 1945 (3 cr.)

U424 Hungarian Literature from Its Beginnings to 1900 (3 cr.)

U426 Modern Hungarian Literature (3 cr.)

U427 Politics, Society, and Culture in Present-Day Hungary (3 cr.)

U430 Finnic Folklore (3 cr.)

U436 Finnish Civilization to 1800 (3 cr.)

U437 Finnish Civilization from 1800 to the Present (3 cr.)

U450 Turkish Oral Literature (3 cr.)

U459 Seminar in Turkish Studies (3 cr.)

U469 The Mongols of the Twentieth Century (3 cr.)

U481 Survey of Tibetan Literature (3 cr.)

U483 Introduction to the History of Tibet (3 cr.)

U484 The Religions of Tibet (3 cr.)

U485 Tibetan Oral Literature (3 cr.)

U489 Tibet and the West (3 cr.)

U490 Sino-Tibetan Relations (3 cr.)

U493 Central Asia in the Sixteenth-Nineteenth Centuries (3 cr.) Graduate P: reading knowledge of a foreign language in which relevant literature exists.

U494 Central Asia under Russian Rule (3 cr.)

U495 Islamic Central Asia to the Sixteenth

Century (3 cr.)

U496 Ethnic History of Central Asia (3 cr.)

U497 Inner Asian Peoples and Nationality

Policy in the Peoples' Republic of China

(3 cr.)

U498 Studies in Inner Asian Religious

Traditions (3 cr.)

U518 Empire and Ethnicity in Modern

Russian History (3 cr.)

U519 Soviet and Post-Soviet Nationality

Policies and Problems (3 cr.)

U520 Selected Topics in Central Eurasian

Studies (1-6 cr.)<sup>1</sup>

U533 Finland in the Twentieth Century (3 cr.)

U534 Classical Finnish Literature (3 cr.)

U535 Modern Finnish Literature (3 cr.)

U543 Estonian Culture and Civilization (3 cr.)

U544 The Baltic States since 1918 (3 cr.)

U550 Turkish Folklore: Methodology and

Analysis (3 cr.)

U563 Mongolian Historical Writings (3 cr.)

U564 Mongolian Literature and Folklore

(3 cr.)

U565 Mongolian Civilization and Folk

Culture (3 cr.)

U569 Modern Inner Mongolia (3 cr.)

Introduction to the modern history of the area of Inner Mongolia. Surveys major trends, ideas, personalities, and events; places Inner

Mongolia within the context of both China and Inner Asia; uses the history of Inner Mongolia to explore current general theories of nationalism, development, and culture change.

U574 The Ecology of Central and Northern

Asia (3 cr.)

U588 Chinese Inner Asia to 1949 (3 cr.)

History of Chinese Inner Asia from the rise of the Qing dynasty to the Chinese Communist victory in 1949-1951. Focus includes Qing

systems of indirect rule, colonization, the New Policies, religion and modernity, indigenous

nationalist movements and their interaction with both outside powers, and the Soviet and

Chinese Communist movements.

U590 Shamanism in Central Eurasia (3 cr.)

U595 Introduction to Central Eurasian

Studies (3 cr.)

U596 Post-Soviet Transition in Central Asia

(3 cr.) Examines problems of transition since

1991 in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. Topics include

political systems, economic change, emergence of national identities, foreign policy (with

"near" and "far" abroad), social welfare and education, demography, language policy,

citizenship, military (including military

conflict), and borders.

U597 Politics and Society in Central Asia

(3 cr.)

U598 Peoples and Cultures of Central Asia

(3 cr.)

U599 Seminar on Social Change in Central

Asia (3 cr.)

U600 Advanced Readings in Central Eurasian

Studies (1-6 cr.)

U601 M.A. Thesis Research (3 cr.)

U698 Islamic Hagiography of Central Asia (3 cr.) P: reading knowledge of Persian or

Chaghatay Turkic.

U710 Seminar in Uralic Studies (3 cr.)

U720 Seminar in Central Eurasian Studies

(3 cr.)

U730 Seminar in Hungarian Studies (3 cr.)

U785 Seminar in Tibetan Literature (3 cr.)

U790 Colloquium in Central Eurasian Studies

(1 cr.)

U797 Seminar on Comparative Study of

Muslim Societies of Central Asia and

Middle East (3 cr.)

U798 Seminar on Central Asian Nomadic

Pastoral Societies (3 cr.)

U800 Research in Central Eurasian Studies

(1-6 cr.)

<sup>1</sup> Linguistic structure courses, offered periodically, cover such languages as Evenki, Mordvin, Sami (Lappish), Livonian, and Kazak.

## Chemical Physics

College of Arts and Sciences  
Bloomington

**Co-Directors** Associate Professors David Baxter (Physics), Josef Zwanziger (Chemistry)

### Graduate Faculty

**Chancellors' Professor** George Ewing (Emeritus, Chemistry)

**Distinguished Professors** Ernest Davidson (Chemistry), Steven Girvin (Physics), Gary Hieftje (Chemistry), Allan MacDonald (Physics), Peter Ortoleva (Chemistry), Charles Parmenter (Chemistry), Victor Viola (Chemistry)

**Linda and Jack Gill Chair** Gary Hieftje (Chemistry)

**Professors** Adam Allerhand (Chemistry), Russell Bonham (Emeritus, Chemistry), Stanley Hagstrom (Emeritus, Chemistry, Computer Science), Larry Kesmodel (Physics), Peter Langhoff (Chemistry), Lawrence Montgomery (Chemistry), James Reilly (Chemistry), William Schaich (Physics), James Swihart (Emeritus, Physics)

**Associate Professors** David Baxter (Physics), John Carini (Physics), David Clemmer (Chemistry), Glenn Martyna\* (Chemistry), Romualdo de Souza (Chemistry), Josef Zwanziger (Chemistry)

**Graduate Advisors** Associate Professor David Baxter, Swain West 128, (812) 855-8337; Associate Professor Josef Zwanziger, Chemistry C231A, (812) 855-3994

**Degree Offered** Doctor of Philosophy. A student may also qualify for the Master of Science degree in chemistry or physics.

### Special Program Requirements

(See also general University Graduate School requirements.)

### Doctor of Philosophy Degree

**Admission Requirements** Undergraduate degree in chemistry, physics, or mathematics. Students who have interests in the physical sciences with undergraduate degrees in other fields, such as engineering, are also encouraged to apply; they will be considered on an individual basis. Admission to the program requires the student first be admitted to the graduate program in chemistry or physics.

**Grades** B (3.0) average or higher must be maintained.

**Course Requirements** These requirements are flexible and are planned and approved by the Chemical Physics Committee and the

individual student. The guidelines in planning the curriculum are that the student in the program acquire a knowledge of condensed-matter physics, electricity and magnetism, molecular structure, kinetics, atomic and molecular spectroscopy, quantum mechanics, and statistical mechanics. The formal requirements are either those of a major in physical chemistry with a minor in physics, or of a major in physics with a minor in chemistry.

**Minor** For a minor in physics, 9 credit hours in physics courses at the P501 level or higher are required. For a minor in chemistry, 6 credit hours are required, chosen from the following: C561-C562, C566, C567-C568, C668.

Occasionally, courses other than those listed here may be accepted, but such substitutions require approval of the Chemical Physics Committee.

**Major** See Ph.D. program descriptions listed under chemistry or physics.

**Qualifying Examination** See requirements of the major department, found elsewhere in this bulletin.

**Dissertation** Under the direction of a graduate faculty member of the Department of Chemistry or the Department of Physics.

**Final Examination** Usually oral, covering dissertation, major, and minor(s).

## Chemistry

College of Arts and Sciences  
Bloomington

**Chairperson** Ernest Davidson

**Departmental e-mail:** chemgrad@indiana.edu

**Departmental URL:**

<http://www.chem.indiana.edu/>

### Graduate Faculty

**Chancellors' Professor** George Ewing (Emeritus)

**Linda and Jack Gill Chair** Gary Hieftje

**Robert and Marjorie Mann Chair** Ernest Davidson

**Lilly Chemistry Alumni Chair** Milos Novotny

**Distinguished Professors** Kenneth Caulton, Ernest Davidson, Frank Gurd (Emeritus), Gary M. Hieftje, Ronald Hites (Public and Environmental Affairs), Milos Novotny, Peter Ortoleva (Geological Sciences), Charles Parmenter, Victor Viola

**Herman T. Briscoe Professor** Dennis Peters

**Earl Blough Professor** George Christou

**Professors** Adam Allerhand, Edward Bair (Emeritus), Russell Bonham (Emeritus), Ernest Campaigne (Emeritus), Marvin Carmack (Emeritus), Jack Crandall, Harry Day (Emeritus), Joseph Gajewski, Stanley Hagstrom (Emeritus, Computer Science), W. Terry Jenkins (Emeritus, Biochemistry and Molecular Biology), Peter Langhoff, Lynne Merritt (Emeritus), Lawrence Montgomery, James Reilly, John Richardson (Biochemistry), V. Jack Shiner Jr. (Emeritus), Lee Todd (Emeritus), Rupert Wentworth (Emeritus), David R. Williams

**Associate Professors** David Clemmer, Glenn Martyna\* Romualdo de Souza, Theodore Widlanski, Josef Zwanziger

**Senior Scientist** John Huffman

**Assistant Professors** Donald Burke,\* Shuming Nie,\* Martha Oakley,\* Martin Stone,\* Jeffrey Zaleski\*

**Adjunct Professors** Steven Girvin (Physics)

**Graduate Advisor** Professor Jack K. Crandall, Chemistry Building C121, (812) 855-2069

**Degrees Offered** Master of Science, Master of Arts for Teachers, and Doctor of Philosophy. The department also participates in the biochemistry, chemical physics, and molecular and cellular biology programs.

**Fields of Study** Analytical, biological, inorganic, organic, and physical chemistry.

### Special Department Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate degree in chemistry, physics, mathematics, or the biological sciences. Students with undergraduate degrees in other areas of the physical sciences or engineering are also encouraged to apply. Students are admitted to the program only with the approval of the Chemistry Graduate Admissions Committee.

**Grades** At least a B (3.0) average in work for the advanced degree. Grades below C (2.0) are not counted toward the completion of degree requirements but will be counted in determining a student's grade point average.

### Master of Science Degree

This degree may be conferred upon the holder of a bachelor's degree or master's degree in another discipline.

**Course Requirements** These requirements are flexible and are planned and approved by the graduate committee. A minimum of 30 credit hours in chemistry is required. At least 9 credit hours of course work in the major field offered in fulfillment of the M.S. degree must

be in courses numbered 500 or above (excluding thesis work).

**Thesis** Required.

### Master of Arts for Teachers Degree

The M.A.T. program permits a secondary school teacher with minimum training in chemistry to achieve certification for the teaching major in chemistry in the secondary school. Teachers already holding such certification may strengthen their training by taking advanced lecture and laboratory work in chemistry. Students with B.A. or B.S. degrees in chemistry, but with no education courses, may complete requirements for a secondary Indiana teaching certificate and strengthen their chemistry training.

**Admission Requirements** Eighteen (18) credit hours of chemistry, including one semester each of general, quantitative, and organic chemistry. Deficiencies must be removed without graduate credit. Continuance in the program will depend upon the results of a qualifying examination taken after either one semester or one summer in the program.

**General Requirements** A total of 36 credit hours, of which a minimum of 20 credit hours must be in courses in chemistry which carry graduate credit. A maximum of 6 credit hours of undergraduate courses may be applied toward the M.A.T. degree. For a student having an unusually strong undergraduate background in chemistry, e.g., a B.S. degree, some of the required 20 credit hours in advanced chemistry courses may be in other areas of science and mathematics, if approved in advance by the graduate advisor. A student completing the requirements for the M.A.T. degree in chemistry must also have met the requirements for certification for a teaching major in science in the secondary school. Consult Education Student Services (Wright Education Building 1064, (812) 856-8511) for details.

**Lecture-Course Requirements** Twelve (12) credit hours, distributed as follows: 6 credit hours in one of the five fields listed above and 3 credit hours in each of two of the remaining four. Lecture courses may be selected from those at the 500 level or above and from any of the following undergraduate courses: analytical, C317, C318; biological, C481, C483, C484, C485; inorganic, C430; organic, C342, S342, C443; physical, C360, C361, S361, C362, S362, C460.

**Laboratory-Course Requirements** Two (2) credit hours chosen so that the student's total background in advanced laboratory courses will include credit in three different fields. The following, and comparable courses taken



elsewhere, will qualify: C315, C335, C344, S344, C364. Credit may be received for C509 if it is taken in a field in which a 500-level lecture course has been taken or is being taken concurrently.

**Electives** Additional courses in chemistry at the 400 level or above to give a total of at least 20 credit hours (including course work in the above two categories). Up to 16 credit hours in courses at the 300 level or above in mathematics, biological sciences, physical sciences, or education carrying graduate credit.

**Final Examination** Either oral or written or both.

### **Master of Library Science Degree/Master of Information Science Degree (Chemistry)**

Offered by the School of Library and Information Science. Students in this joint program receive the Master of Library Science degree or the Master of Information Science degree and are certified as information specialists in chemistry.

**Admission Requirements** Bachelor's degree in chemistry or the equivalent.

**Course Requirements** Three of the four common core courses in SLIS (L503, L505, L507, L509); Chemistry C400, C401, C402; and the core requirements for either the M.L.S. or the M.I.S. For further details, consult the graduate advisor in the School of Library and Information Science.

### **Doctor of Philosophy Degree**

The program leading to the Ph.D. degree emphasizes the attainment of a high level of competency in a specialized area of chemistry, but also requires the development of broad knowledge and experience. By the time the degree is earned, the student should show promise of becoming a capable and independent investigator in chemistry. The major emphasis for the Ph.D. is on research while in residence on the Bloomington campus. Research should be the student's greatest challenge and the focus of the major portion of his or her energy. The student's attitude toward and progress in research is a most important factor in graduate committee decisions.

**Course Requirements** A total of 90 credit hours, of which at least 24 credit hours must be in course work. Students may major in analytical, biological, inorganic, organic, or physical chemistry; these fields are also acceptable as minors. Doctoral students majoring in a field of chemistry are required to complete a minimum of 12 credit hours of

course work in that field, following a sequence of courses approved by their advisory committee.

A doctoral student in chemistry can choose to minor in a field of chemistry or can elect to minor in some other department. In the latter case, the requirements are specified by the minor department. Students electing to minor within the department must complete a minimum of 6 credit hours in one specific area of chemistry other than the major area. The course work comprising an inside minor must be approved by the advisory committee.

All doctoral students in chemistry are required to enroll in C500 Introduction to Research during their first year of study.

### **Foreign-Language/Tool-Skill Requirement**

The department has no formal foreign language or tool-skill requirement, but Ph.D. advisory committees may consider such courses essential for individual students.

**Qualifying Examinations** To remain in good standing, students must pass monthly cumulative examinations at the prescribed rate: one by the end of the second semester, three by the end of the third semester, and five by the end of the fourth semester. At least four examinations passed must be in the student's major field. In the fifth semester, students meet with their advisory committees to review past performance in both the major and minor areas and to evaluate plans for completing the Ph.D. Current information concerning probation, termination, and reinstatement policies may be obtained from the departmental graduate office.

**Final Examination** Usually oral, covering dissertation, major, and minors.

**Ph.D. Minor in Chemistry** Students from other departments who wish to minor in one of the five fields of chemistry (analytical, biological, inorganic, organic, or physical) must complete at least 6 credit hours of graduate course work in that area with an average of B (3.0) or above.

### **Courses**

- C315 Chemical Measurements Laboratory I** (3 cr.)
- C317 Equilibria and Electrochemistry** (2 cr.)
- C318 Spectrochemistry and Separations** (2 cr.)
- C335 Inorganic Chemistry Laboratory** (1-3 cr.)
- C341-C342 Organic Chemistry Lectures I-II** (3-3 cr.)
- C343-C344 Organic Chemistry Laboratory I-II** (2-2 cr.)
- C360 Introductory Physical Chemistry** (3 cr.) Not for M.S. or Ph.D. students in chemistry.

### **C361 Physical Chemistry of Bulk Matter** (3 cr.)

**C362 Physical Chemistry of Molecules** (3 cr.)

**S362 Physical Chemistry of Molecules, Honors** (3 cr.)

### **C364 Introduction to Basic Measurements** (3 cr.)

**C400 Chemical Information Sources and Services** (1 cr.)

**C401 Computer Sources for Chemical Information** (1 cr.)

**C402 Current Topics in Chemical Information** (1 cr.)

**C405 Principles of Chemistry** (1-3 cr.) For teachers of high school chemistry; offered in summer session only. May be repeated.

**C406 Lecture Demonstration Techniques in Chemistry** (1 or 2 cr.) Nonmajors only.

**C430 Inorganic Chemistry** (3 cr.)

**C483 Biological Chemistry** (3 cr.)

**C484 Biomolecules and Catabolism** (3 cr.)

**C485 Biosynthesis and Physiology** (3 cr.)

**C500 Introduction to Research** (2-6 cr.; 6 cr. max.) Objectives and techniques of chemical research. Assignment to research problem to be completed during two semesters.

**C501 Chemical Instrumentation** (4 cr.)

Electronics as applied to chemical instrumentation; design and construction of instruments used in chemical research, analysis, recording, and control; maintenance and practice in modification to meet special needs.

**C502 Spectroscopic Methods in Inorganic Chemistry** (3 cr.) P: C361. Chemical

applications of group theory and the elucidation of structure and bonding in inorganic molecules and complexes by vibrational, nuclear magnetic resonance, Mossbauer and electronic absorption spectroscopy.

**C503 Spectrometric Methods of Structure Determination** (3 cr.) P: graduate standing.

Elucidation of molecular structure utilizing IR, UV, and NMR spectroscopy, mass spectrometry, and other methods.

**C506 Biogeochemistry** (3 cr.) The formation and processing of organic material in natural environments. Microbiology of sediments. The global biogeochemical cycles of carbon, nitrogen, and sulfur. Geochemistry of organic materials. Organic geochemical evidence of evolutionary events.

**C509 Special Laboratory Problems** (1-5 cr.) Nonmajors only. P: 8 credit hours of chemistry toward graduate degree, consent of instructor. P or C: 500-level lecture course in research field. Participation in scientific research to gain

understanding of its philosophy and techniques.

**C511 Advanced Analytical Methods I** (4 cr.)

Theory and practice of analytical separation techniques and analytical spectroscopy; chromatographic methods of separation; fundamentals of gas and liquid chromatography, overview of spectroscopic instrumentation, atomic and molecular spectroscopy for analysis.

**C512 Advanced Analytical Methods II** (4 cr.)

Theory and practice of electrochemical (potentiometric and voltammetric) methods of analysis; introduction to analytical chemistry of the elements and statistics for analytical chemistry.

**C540 Advanced Organic Chemistry** (3 cr.) P:

C362, C342. Valence and molecule structure, electronic interpretation of organic reactions, stereochemistry.

**C543 Organic Reactions** (3 cr.) Synthesis of organic compounds, degradation reactions, selected topics in organic reactions.

**C561 Atomic and Molecular Quantum Theory**

(3 cr.) P: graduate standing or consent of instructor. Elements of quantum theory, solution of elementary problems with chemical applications, approximate methods, atomic structure, molecular symmetry and normal vibrations, the molecular orbital description of molecules.

**C562 Computational Quantum Chemistry**

(3 cr.) P: C561 or consent of instructor. Electronic structure theory at the Hartree-Fock and semiempirical levels, computer calculations on elementary systems, elements of group theory and linear vector spaces, electron correlation, structure of potential surfaces.

**C566 Molecular Optical Spectroscopy** (3 cr.)

P: C561 or consent of instructor. Interaction of radiation with matter. Spectroscopic probes of the rotational, vibrational, and electronic structure of molecules. Advanced laser methods.

**C567 Chemical Statistical Mechanics** (3 cr.) P: graduate standing or consent of instructor.

Introduction to equilibrium and nonequilibrium many-body systems using ensemble techniques. Emphasis on molecular systems and systems undergoing chemical transformation or transport. Both qualitative and rigorous approaches.

**C568 Advanced Statistical Mechanics** (3 cr.) P: C567 or consent of instructor. Selected topics such as pair correlation functions in classical liquids, laser and reaction-transport,

nonequilibrium phenomena, critical phenomena, reaction rates, condensed media, NMR, precipitation and polymer kinetics, Green's function methods and computational methods.



- C648 Seminar: Organic Chemistry (1-3 cr.)**  
P: consent of instructor. Recent developments in such areas as sulfur compounds, heterocycles, stereochemistry, polymers, and synthesis. (May be repeated.)
- C668 Seminar: Physical Chemistry (1-3 cr.)**  
P: consent of instructor. Topics such as chemical applications of matrix algebra and group theory, digital computing techniques, solid state chemistry, high temperature processes, electrochemistry, theory of solutions, spectroscopy, and surface chemistry. (May be repeated.)
- C681 Structure and Reactivity of Proteins (3 cr.)** P: C581. Supplements and extends C581; emphasis on chemical synthesis and modification; stability and thermodynamics; complex proteins such as lipoproteins, metalloproteins, and glycoproteins.
- C682 Advanced Enzymology (3 cr.)** P: C581, C582, or consent of instructor. This course supplements the basic enzymology offered in C582. The course emphasizes the kinetics of enzymic reactions, mechanisms of organic catalysis, and current research methods in enzymology. There will be two lectures and one student presentation each week.
- C684 Metabolism of Complex Molecules (2-3 cr.)** P: C581, C582. An advanced course dealing with the metabolism and regulation of complex biological structures and events, among them lipids and lipoproteins; polysaccharides; contraction, motion, and division; electron transport and energy transduction, and the regulation of highly integrated cellular functions.
- C687 Seminar: Advanced Topics in Biochemistry (1-3 cr.)** P: consent of instructor. Topics vary yearly and include the following: physio-chemical techniques in the study of macromolecules; experimental methods in enzymology; organic chemistry of enzymatic reactions and enzyme models; conformational properties and macromolecules.
- C688 Seminar: Biological Chemistry (1-3 cr.)** P: consent of instructor. Recent advances in such areas as biological oxidations, energetics and equilibria, hormones, and nutrition. (May be repeated.)
- C810 Research: Analytical Chemistry (cr. arr.)\***
- C830 Research: Inorganic Chemistry (cr. arr.)\***
- C840 Research: Organic Chemistry (cr. arr.)\***
- C860 Research: Physical Chemistry (cr. arr.)\***
- C880 Research: Biological Chemistry (cr. arr.)\***
- Teller theorem; low-, intermediate-, and high-spin systems; mixed valency; metal-ligand multiple bonding, metal-metal bonds; coordination clusters and their biological relevance.
- C635 Mechanisms of Inorganic Reactions (3 cr.)** Analysis of the experimental and theoretical basis for our understanding of the reactions associated with main group and transition metal ions and inorganic reagents in solution. Classes of reactions include ligand substitutions, redox reactions, electron transfer reactions, reactions within the coordination sphere of metal ions including catalysis by photochemical and electrochemical activation.
- C636 Organometallic Chemistry and Catalysis (3 cr.)** Synthesis and reactivity of organo-main group and transition metal compounds, including application to organic synthesis. Predictive principles and generic C-C and C-H bond-forming reactions, including hydrogenation, coupling, addition to olefins or alkynes, and metatheses. These reactions are also extended to reactions on surfaces and solid-state processes.
- C637 Physical Methods in Structural Chemistry (3 cr.)** Application of X-ray diffraction, dynamic NMR and mass spectroscopy to structural and mechanistic problems throughout the periodic table, with emphasis on what techniques are optimal for particular questions, as well as the potential weaknesses of each.
- C638 Seminar: Inorganic Chemistry (1-3 cr.)** P: consent of instructor. Topics not ordinarily covered by regularly scheduled courses, such as boron hydrides, X-ray diffraction, metal-metal bonds, bioinorganic chemistry, platinum metals chemistry, inorganic photochemistry, etc. (May be offered in alternate years.)
- C639 Characterization of Paramagnetic Molecules (3 cr.)** Definitions of diamagnetism, paramagnetism, magnetization and magnetic susceptibility; the Curie Law; orbital angular momentum; the Van Vleck equation; zero-field splitting; exchange interactions in dinuclear and polynuclear metal clusters. Basic concepts of paramagnetic NMR; spin delocalization mechanisms and isotropic shifts; contact and dipolar contributions. EPR of transition complexes; g value anisotropy as a function of coordination geometry.
- C643 Organic Natural Products (3 cr.)** P: C540, C543; or consent of instructor. Synthesis and chemical-physical analysis of the structure of alkaloids, antibiotics, bacterial metabolites, plant pigments, steroids, and terpenes. (May be offered in alternate years.)
- C644 Physical Organic Chemistry (1-3 cr.)** P: C342, C362. Application of physical-chemical techniques to the study of structure and mechanism of reaction of organic compounds.
- C615 Bioanalytical Chemistry (1.5-3 cr.)**  
Survey of modern analytical techniques, including spectrochemical, electrochemical, and separation methods, used in biochemical analysis and their applications. (May be offered in alternate years.)
- C616 Surface Analysis and Surface Chemistry (1.5 cr.)** An overview of the modern instrumental techniques of surface analysis will be presented, together with a survey of their applications to solve surface chemical problems. Topics include electron and ion spectroscopies, SIMS, LEED, thermal desorption spectroscopy, surface electron and ion microscopies, catalysis, microelectronics fabrication, and corrosion.
- C618 Special Topics in Analytical Chemistry (1-3 cr.)** P: consent of instructor. Special topics of current interest in analytical chemistry. (May be repeated.)
- C619 Seminar: Analytical Chemistry (1 cr.)** P: consent of instructor. Individual student seminars covering new methods or applications of chemical analysis or characterization. Required of all analytical chemistry majors.
- C630 Structure and Bonding (3 cr.)** P: C502 and C561. Applications of quantum mechanics to the electronic and geometric structure of inorganic molecules. Advanced ligand field and molecular orbital theories. The Jahn-Teller effect and orbital symmetry studies of stereochemistry. Inorganic photochemistry. (May be offered in alternate years.)
- C632 Structure, Function, and Spectroscopy of Metal Ions in Biological Systems (3 cr.)** Introduction to the field of bioinorganic chemistry and spectroscopic methods for determining structure/function relationship of metal ions in biology. Emphasis on oxygen carriers, metal ion transport and storage, as well as oxidoreductases involved in oxygen, hydrogen, and nitrogen metabolism. A discussion of electron transfer proteins, photosystems, and the role of metals in medicine will also be included.
- C633 Inorganic Chemistry of Main Group Elements (3 cr.)** The syntheses, structure, and industrial application of compounds and materials in which main group elements play a major role. All elements except the d-block transition metals are included as main group elements. This includes the f-block lanthanides and actinides as well.
- C634 Transition Metal Chemistry (3 cr.)**  
Survey of the properties of the transition metals with emphasis on common oxidation levels, coordination geometries and compounds with "classical" ligands; "hard" and "soft" acids and bases; d-orbitals and their energies in different geometries; formation constants and the Chelate Effect, the Jahn-
- C580 Medical Biochemistry (3 cr.)**  
Biochemistry for medical students, emphasizing structure-function relationships of cellular components and biosynthesis and degradation of simple and complex cell constituents as well as regulation of metabolic pathways. Includes biochemical basis for genetic continuity and expression of hereditary characteristics.
- C581 Function and Structure of Macromolecules (3 cr.)** P: C483 or C484 or proteins and nucleic acids; thermodynamics and kinetics of biochemical reactions.
- C582 Enzymology and Intermediary Metabolism (3 cr.)** P: C581 or consent of instructor. Chemistry of enzymatic reactions; coenzymes; cell structure; metabolism of carbohydrates, lipids, and amino acids; biological oxidation; metabolic regulation.
- C583 Physiological Biochemistry (3 cr.)** P: C483. To develop a sound and rigorous biochemical background for students in medicine and allied health sciences; biochemistry of physiological and pathological processes; role of heredity and environmental factors; effects on macromolecules, macromolecular aggregates, and cells.
- C584 Biosynthesis of Macromolecules (3 cr.)** P: C581 or L502. Biosynthesis of complex polysaccharides, nucleic acids, and proteins; their specification, regulation, and control.
- C585 Structure and Function of Biological Membranes (3 cr.)** P: C581 or consent of instructor. Chemistry and biology of lipids and membrane proteins.
- C611 Electroanalytical Chemistry (1.5-3 cr.)**  
Theory and practice of electrochemical techniques (such as cyclic voltammetry, chronocoulometry, stripping analysis, thin-layer electrochemistry, and spectroelectrochemistry) used for analysis and for the characterization of inorganic and organic systems. (May be offered in alternate years.)
- C612 Spectrochemical Methods of Analysis (1.5-3 cr.)** New instrumentation and techniques employed in spectrochemistry; in-depth treatment of commonly used spectrochemical methods. (May be offered in alternate years.)
- C613 Mass Spectrometry and Stable Isotopes (1.5-3 cr.)** Topics in mass spectroscopic instrumentation and applications and in the natural chemistry of the stable isotopes of C, H, N, O, S, and rare gases. (May be offered in alternate years.)
- C614 Chromatography (1.5-3 cr.)** Theoretical and practical aspects of chromatographic methods of separation; fundamentals of gas and liquid chromatography, related instrumentation, and selected applications. (May be offered in alternate years.)

# Classical Studies

College of Arts and Sciences  
Bloomington

**Chairperson** Professor William Hansen

## Graduate Faculty

**Professors** James Franklin, James Halpomp (Emeritus), William Hansen, Thomas Jacobsen (Emeritus), Eleanor Winsor Leach, Timothy Long, Carroll Nelson, Edwin Ramage (Emeritus), Ian Thomson (Emeritus)

**Associate Professors** Cynthia Bannon,\* Matthew Christ, Betty Rose Nagle, Martha Vinson\*

**Director of Graduate Studies** Professor Eleanor Winsor Leach, Ballantine Hall 547, (812) 855-6651

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

**Special Departmental Requirements**  
(See also general University Graduate School requirements.)

**Placement Examination** All newly admitted students will be required to take a placement translation examination in Latin and/or Greek. This examination will be given in the week preceding initial registration. It is the student's responsibility to arrive on campus in time to take this examination. No student will be permitted to enroll for courses until the results of this placement examination are delivered to the director of graduate studies.

## Master of Arts Degree

**Admission Requirements** Undergraduate major in Latin or Greek or the equivalent. Graduate Record Examination General Test required.

**Course Requirements** A minimum of 30 credit hours of Latin, Greek, or classics courses, of which at least 22 credit hours must be in Latin or Greek. One course involving the writing of a term paper.

**Final Examination** Sight translation examination (two hours) in Latin or Greek. Written examination (two hours) on the history of Greek or Latin literature.

**Language Requirement** Reading proficiency in one language: French, German, or another approved modern language, or (for students majoring in Latin) classical Greek. The requirement in classical Greek may be satisfied by completing G301-C302. (The latter courses may not be taken for credit by doctoral students majoring in the Department of

literature, fine arts, folklore, history, history and philosophy of science, linguistics, medieval studies, philosophy, religious studies, Renaissance studies, or any other appropriate department or school (e.g., law, music); the aim of this "Related Fields" minor is to introduce the student to methodologies and approaches other than the philological, which may be applied to the study of the cultures of ancient Greece and Rome.

**Language Requirements** Reading proficiency in French and German; substitution for French of one other modern language will be considered on petition. This requirement must be completed before the qualifying examinations may be taken.

**Qualifying Examinations** Translation examinations (three hours each) based on reading lists in Greek and in Latin. Students should have passed the reading list translation examinations in both Latin and Greek by the end of the third year (if they were admitted to the M.A. program) or by the end of the second year (if they were admitted to the Ph.D. program with an M.A. degree). Qualifying examinations are also required on the history of Greek and Latin literature (three hours each) and on a major author (three hours) chosen by the student. Students should have passed all three of the qualifying examinations by the end of the fourth year (if they were admitted to the M.A. program) or by the end of the second year (if they were admitted to the Ph.D. program with an M.A. degree). An examination on the outside minor may be required by the department of the outside minor.

**Final Examination** Oral, primarily a defense of the dissertation.

**Ph.D. Minor in Greek or Latin** Prospective minors should obtain a copy of "Graduate Minors in Latin and Greek" from the graduate secretary in Ballantine Hall 547, and plan their course work in advance with the director of graduate studies (Department of Classical Studies).

**Courses**

The 500-level courses are intended to emphasize the reading of texts in the original language; 600-level seminars and studies are intended to provide a specialized focus on one topic or theme with greater attention to scholarship and secondary literature.

**Greek Courses**  
**G301-G302 Classical Greek: Accelerated Course I-II (3-3 cr.)**

Classical Studies.) A pass in G302 fulfills the reading-knowledge requirement in classical Greek.

## Master of Arts in Teaching Degree

**Admission Requirements** Undergraduate major in Latin or Greek or the equivalent. Graduate Record Examination General Test required.

**Course Requirements** A total of 36 credit hours of course work, of which at least 20 credit hours must be in courses involving use of the Latin language and 6 credit hours in courses dealing with aspects of Roman civilization, such as Roman art, archaeology, and history.

**Final Examination** Sight translation examination (two hours) in Latin. Written examination (two hours) on the history of Latin literature.

## Doctor of Philosophy Degree

**Admission Requirements** As a prerequisite for admission, a student must (1) have completed at least 24 credit hours of graduate work in classical studies; (2) show proficiency in one modern foreign language; (3) show evidence of scholarly potential as indicated by the submission of a term paper or revised version of a term paper to the Ph.D. Admission Committee of the department; (4) supply two letters of reference; and (5) take the Graduate Record Examination General Test.

**Course Requirements** A total of 90 credit hours, including dissertation (maximum of 28 credit hours). Fifty-three (53) credit hours must consist of the 20 credit hours of core requirements (C501, C502, G536, G537, L536, and L537) and 33 additional credit hours of Latin and Greek reading and seminar courses. The remaining credit hours are distributed among the courses in the minor program.

**Minor** A total of 12 to 15 credit hours of course work, to be planned in consultation with the director of graduate studies. Minor programs aim to broaden the student's knowledge in some aspect of classical studies outside the core curriculum. A minor may be taken in a single department (e.g., fine arts, comparative literature, history); in that case, the student should also consult with the director of graduate studies in that department. An interdisciplinary minor (examples include "Ancient Metrics" and "Medieval Literature") combines course work in other departments with appropriate courses in classical studies.

The department strongly recommends an interdisciplinary minor in "Related Fields," with courses selected from comparative

**G305 Greek Tragedy (3 cr.)**  
**G306 Greek Oratory (3 cr.)**

**G307 Selected Works of Plato (3 cr.)**

**G308 Readings in Biblical Greek (3 cr.)**

**G406 Homer (3 cr.)**

**G407 Greek Historians (3 cr.)**

**G410 Greek Prose Authors (3 cr.)**

**G411 Greek Comedy (3 cr.)**

**G510 Readings in Greek Historians (4 cr.)** Extensive readings in Greek from the major historians—Herodotus, Thucydides, Xenophon, and Polybius—with special attention to the development of Greek historiography.

**G511 Readings in Greek Oratory and Rhetoric (4 cr.)** Selections in Greek from the canon of the ten Attic orators, within the rubrics of epideictic, forensic, and symbolaic oratory. Special emphasis on situating these rhetorical works in their social milieu.

**G512 Readings in Greek Philosophers (4 cr.)**

**G513 Readings in the Greek Novel (3 cr.)** An introduction to the Greek novel based upon readings in Greek in romantic novels such as Longos' *Daphnis and Chloe*, comic novels such as Pseudo-Lucian's *The Ass*, and/or historical novels such as Pseudo-Kallisthenes' *Alexander Romance*. Some attention is also given to current research on the Greek novel.

**G516 Readings in Greek Comedy (4 cr.)**

Examines the genres of old and new comedy as revealed in selected comedies of Aristophanes and Menander. Added to extensive reading in Greek, students will study the literary forms of the genres and how comedy acts as an expression of the poets' engagement with their contemporary social and intellectual climate.

**G517 Readings in Greek Tragedy (4 cr.)**

Careful reading of selected Greek tragedies of Aeschylus, Sophocles, and Euripides, with the goal of appreciating tragedy as a complex art form and as an important social phenomenon created in fifth-century Athens.

**G518 Readings in Greek Epic (4 cr.)**

Introduction to Greek epic poetry including the epic dialect, epic prosody, and oral poetry as a traditional art form. Readings in Greek include at least three books of Homer's *Iliad* or *Odyssey*. Some attention is also given to current research on early Greek epic.

**G536-G537 Survey of Greek Literature I-II (4-4 cr.)**

A two-semester introduction to Greek literature from Homer (mid-eighth century B.C.) to Lucian (second century A.D.) through extensive readings in translation supplemented by select Greek passages and modern scholarship. Attention to the emergence and development of diverse genres within their cultural contexts.

\*Five (5) credits each semester for undergraduates.

- G540 Readings in Byzantine Greek. (4 cr.)**
- G600 Seminar in Greek Epic (4 cr.)** Consideration in depth of select issues in the current scholarship on Greek epic, especially early Greek epic (Homer, Hesiod; Homeric Hymns, fragments of lost epics); includes selected readings in the original Greek. The focus may be upon aspects of the epic tradition or upon the close study of a single text.
- G601 Seminar in Greek Poetry (4 cr.)** Advanced study of selections from Greek poetry. The seminar will focus on issues relevant to the genre(s) to be studied.
- G603 Seminar on Greek Tragedy (4 cr.)** A survey of modes of recent scholarship on Greek tragedy.
- G610 Seminar in the Greek Novel (4 cr.)** Consideration in depth of select issues in the current scholarship on the Greek novel. Selected readings of texts in the original Greek are included. The seminar may focus upon problems of ancient Greek fiction more generally or upon study of a single novel.
- G611 Seminar in Greek Epigraphy, Papyrology and Paleography (4 cr.)** Detailed study of the principles of practices of Greek epigraphy, papyrology or paleography, with examination of selected papyrus documents, inscriptions, or other Greek texts.
- G620 Seminar in Historical Texts and Historiography (4 cr.)** Close study of Greek historical writing as represented both by the surviving works of the major Greek historians and fragments of other writers. Modern scholarship on historiography will encourage discussion of the relationship between historical and other kinds of writing in a Greek setting.
- G622 Seminar on Topics in Greek Literature (4 cr.)** Consideration in depth of select topics in ancient Greek literature. Readings are assigned both in original Greek texts and in the secondary literature.
- G803 Supervised Reading Program (1-4 cr.)** May be repeated for credit.
- Latin Courses**<sup>1</sup>
- L300 Intensive Introduction to Classical and Medieval Latin (3 cr.)**<sup>2</sup>
- L305 Ovid (3 cr.)**
- L307 Cicero (3 cr.)**
- L308 Caesar, *Caesar's Civil War* (3 cr.)**
- L309 Introduction to Virgil's *Aeneid* (3 cr.)**
- L400 Intensive Study of Literary Latin (3 cr.)**<sup>2</sup>
- L407 Roman Lyric (3 cr.)**
- L408 Roman Comedy (3 cr.)**
- L409 Readings in Medieval Latin (3 cr.)**
- L423 Roman Satire (3 cr.)**
- L424 Silver Age Historians (3 cr.)**
- L426 Rhetoric and Oratory (3 cr.)**
- L427 Vergil's *Eclogues* and *Georgics* (3 cr.)**
- L429 Roman Letters (3 cr.)**
- L430 Lucretius (3 cr.)**
- L432 Livy (3 cr.)**
- L505 Latin Grammar, Composition, and Reading (4 cr.)** Exercises in Latin composition requiring control of principle features of Latin syntax and sight reading of previously unseen passages leading to rapid mastery of texts.
- L509 Cicero, *His Life and Works* (4 cr.)**
- L510 Readings in Latin Historians (4 cr.)** Intensive reading of one of the major Roman historians (Caesar, Livy, Tacitus) or a survey of the same with consideration of their places, antecedents, and successors in Roman literature. Emphasis on reading and comprehension of the texts.
- L511 Readings in Latin Oratory and Rhetoric (4 cr.)** Through intensive readings in Ciceronian speeches or a selection of readings drawn from Roman rhetorical writers (Cicero, Seneca, Tacitus), this course will examine the theory and practice of rhetoric at Rome in the context of philosophical, literary and historical issues.
- L513 Readings in the Roman Novel (4 cr.)** Through intensive readings in Roman prose fiction, including but not limited to the works of Petronius and Apuleius, this course will examine the genre of prose fiction in its literary and historical contexts.
- L515 Readings in Latin Elegy (4 cr.)** Readings will highlight the development of elegiac verse as a genre with attention to issues of current interest: the politics of poetic language; the construction of gender roles; the first-person speaker as an extra-social observer and commentator.
- L536-L537 Survey of Latin Literature I-II (4-4 cr.)** Readings in Latin and in translated texts will present Latin literature from Livius Andronicus through Juvenal. Traditional scholarly questions will be introduced, but discussion will emphasize the construction of continuities in Roman literature by considering literary history as an aspect of cultural history.
- L540 Medieval Latin (4 cr.)** P: L409 or an equivalent course in medieval Latin. Students not offering one of these prerequisites will be required to pass an examination on medieval texts before consent to enroll will be granted.
- L545 Rapid Reading and Principles of Grammar (4 cr.)** Readings in the major authors of the Republic and Golden Age and organized
- study of grammar to enable the student to read rapidly for comprehension, not translation.
- L550 Roman Historians (4 cr.)**
- L600 Seminar in Latin Epic (4 cr.)** May be repeated for credit. Emphasis upon problems involving the interface of poetics and politics. Either a special topic (e.g., epic divinities) or an individual text may serve as the focus for study involving contemporary approaches to poetry and to culture.
- L602 Seminar in Latin Comedy (4 cr.)**
- L603 Seminar in Latin Tragedy (4 cr.)** Study of the fragments of Republican tragedy and the evidence for lost plays will be followed by research into historical, philosophical, and literary questions posed by Seneca's *Tragedies*.
- L610 Seminar in the Roman Novel (4 cr.)** A study of Roman prose fiction through selected readings in the works of Petronius and Apuleius and in the current scholarship on the Roman novel and modern theoretical approaches to fiction. The seminar may focus on problems in the study of Roman fiction or on a single novel.
- L611 Seminar in Latin Epigraphy or Palaeography (4 cr.)** Advanced study of the methodologies and concentration on select Latin inscriptions or manuscripts.
- L620 Seminar in Latin Historical Texts and Historiography (4 cr.)** May be repeated for credit. A study of Roman historical writing from Republican, Imperial, or late Antique periods. The seminar may focus on literary, legal, documentary, or religious texts, or on problems in Roman history or historiography. Discussion will address the methodologies of current historical and historiographical scholarship.
- L803 Supervised Reading Program (1-4 cr.)** May be repeated for credit.
- Classics Courses**
- C405 Comparative Mythology (4 cr.)**<sup>1</sup>
- C409 Roman Literature and Art (3 cr.)**
- C411 (Fine Arts A411) The Art and Archaeology of Anatolia (4 cr.)**<sup>1</sup>
- C412 (Fine Arts A412) The Art and Archaeology of the Aegean (4 cr.)**<sup>1</sup>
- C413 (Fine Arts A413) The Art and Archaeology of Greece (4 cr.)**<sup>1</sup>
- C414 (Fine Arts A414) The Art and Archaeology of Rome (4 cr.)**<sup>1</sup>
- C416 Ovidian Mythology and its Tradition (3 cr.)**
- C419 The Art and Archaeology of Pompeii (4 cr.)** P: for graduate students: reading knowledge of Italian.
- C501 Introduction to Graduate Study: Literary and Cultural Theory for Classicists (3 cr.)** P: Provides familiarity with influential theories and methodologies of contemporary interpretive scholarship and evaluates their relevance to the interpretive practices of classical studies. A brief survey of formative developments in the history of classical scholarship will be followed by a chronologically ordered study of prominent twentieth century writings.
- C502 Bibliography and Research Resources for Classical Studies (1 cr.)** Provides practice in using some of the major electronic and printed sources of bibliography and historical information available for the study of Greek and Roman antiquity. An introduction to ancillary disciplines such as epigraphy and numismatics will be included.
- C503 The Ancient City (4 cr.)** Survey of the topography and monuments of one of the major cities—Athens, Corinth, Rome, Ostia, for example—of the classical world. Introduces students to the individual city and its monuments. Provides through the monuments a better understanding of urbanism through the history of the specific city, its statesmen, and authors.
- C506 Teaching of Classics in College (1 cr.)** Required of all graduate students teaching a departmental course for the first time. May be taken twice for credit.
- C507 Foreign Language Institute (1-6 cr.)** Formal study of Latin and Roman culture for secondary teachers and those preparing for secondary teaching. Normally taught in two-week sessions in the summer. May be repeated for up to 6 hours of credit.
- C610 Seminar in the Greek and Roman Novels (4 cr.)** Consideration in depth of select issues in the current scholarship on the ancient novels. The emphasis of the seminar is upon the secondary literature and upon the novels in English translation; a knowledge of Greek or Latin is not required.
- C623 Seminar in Classical Archaeology (4 cr.)** P: C412 or A412 or consent of instructor. In-depth analysis and discussion of selected topics in Aegean, Greek, Etruscan, or Roman archaeology, including interconnections with other Mediterranean, Anatolian, or Near Eastern cultures.
- C875 Research in Greek or Latin (cr. arr.)**
- C880 Ph.D. Thesis (cr. arr.)**

<sup>1</sup>Three (3) credits for undergraduates.

<sup>2</sup>Courses before L409 are open to graduate students who are not majors in classical studies.

<sup>3</sup>Five (5) credits for undergraduates.

# Cognitive Science

## Combined Degree Program

College of Arts and Sciences  
Bloomington

**Director** Luther Dana Waterman Professor  
Richard M. Shiffrin (Psychology)

**Departmental e-mail:** [icogsci@indiana.edu](mailto:icogsci@indiana.edu)  
**Departmental URL:**  
<http://www.psych.indiana.edu>

## Graduate Faculty

**Arthur F. Bentley Professor** Elinor Ostrom  
(Political Science, Public and Environmental  
Affairs)

**College Professor of Cognitive Science and of  
Computer Science** Douglas Hofstadter  
(History and Philosophy of Science,  
Philosophy, Psychology)

**Rudy Professors** Anil Gupta (Philosophy),  
James T. Townsend (Psychology)

**Luther Dana Waterman Professor** Richard  
M. Shiffrin

**Professors** Geoffrey Bingham (Psychology),  
Myles Brand (Philosophy), Jerome Busemeyer,  
Gary Cronkrite (Communication and  
Culture), Donald Cunningham (Education),  
Thomas Duffy (Education), J. Michael Dunn  
(Philosophy, Computer Science), Russell Fazio  
(Psychology), Steven Franks (Linguistics,  
Slavic Languages and Literatures), Judith  
Gierut (Speech and Hearing Sciences), Robert  
Goldstone (Psychology), Andrew Hanson  
(Computer Science), Diane Kewley-Port  
(Speech and Hearing Sciences), John Kruschke  
(Psychology), Annie Lang

(Telecommunications), Frank Lester Jr.  
(Education), Daniel Maki (Mathematics),  
Michael McRobbie (Computer Science),  
Harold Morris (Health, Physical Education,  
and Recreation), Paula Niedenthal  
(Psychology), Robert Nosofsky (Psychology),  
Richard Olishavsky (Business), Christopher  
Peebles (Anthropology), David Pisoni  
(Psychology), Robert Port (Linguistics,  
Computer Science), Steven Sherman  
(Psychology), Brian C. Smith (Computer  
Science), Linda Smith (Psychology), Joseph  
Steinmetz (Psychology), Esther Thelen  
(Psychology), Larry Thibos (Optometry),  
William Timberlake (Psychology), Charles  
Watson (Speech and Hearing Sciences,  
Psychology), Wayne Winston (Business)

**Associate Professors** Joyce Alexander  
(Education), Arthur Bradley (Optometry),  
Thomas Busey\* (Psychology), Andrew Dillon

(School of Library and Information Science),  
Preston Garraghty (Psychology), Michael  
Gasser (Computer Science, Linguistics), Eric  
Isaacson (Music), David Leake (Computer  
Science), David McCarty (Philosophy),  
Jonathan W. Mills (Computer Science),  
Lawrence Moss (Mathematics), Gregory  
Rawlins (Computer Science)

**Assistant Professors** Sasha Barab  
(Education), Kenneth de Jong (Linguistics),  
Kelly Mix\* (Psychology), Laura Murray\*  
(Speech and Hearing Sciences), Uta Priss\*  
(School of Library and Information Sciences),  
Julie Stout\* (Psychology)

**Associate Scientist** Gary Kidd (Speech and  
Hearing Sciences)

## Associate Faculty

**Rudy Professors** David Heise (Sociology),  
George von Furstenberg (Economics)

**Professors** Kathleen Bardovi-Harlig  
(Linguistics), Phil Connell (Speech and  
Hearing Sciences, Linguistics), William  
Corsaro (Sociology), James Craig (Psychology),  
Daniel Dinnsen (Linguistics, Speech and  
Hearing Sciences), Daniel Friedman

(Computer Science), Roy Gardner  
(Economics), S. Lee Guth (Emeritus,  
Psychology, Optometry), Jeffrey Hart (Political  
Science), Beverly Hartford (Linguistics),  
Eugene Kintgen (English), Noretta Koertge  
(Emerita, History and Philosophy of Science),  
Daniel Leivant (Computer Science,  
Philosophy), David MacKay (Business,  
Geography), Eugene McGregor Jr. (Public and  
Environmental Affairs, Political Science),  
Philip Podsakoff (Business), Paul Purdom  
(Computer Science), Charles Reigeluth  
(Education), Donald Robinson (Emeritus,  
Psychology, Speech and Hearing Sciences),  
Joseph Stampfli (Emeritus, Mathematics),  
Alfred Strickholm (Emeritus, Neural Science,  
Physiology) Maynard Thompson  
(Mathematics), Arlington Williams II  
(Economics)

**Associate Professors** Curtis Bonk  
(Education), J. Clancy Clements (Spanish and  
Portuguese), Stuart Davis (Linguistics), Joseph  
Farley (Psychology), Theodore Frick  
(Education), Ed Hirt (Psychology), Marianne  
Kielian-Gilbert (Music), Yoshihisa Kitagawa  
(Linguistics), Armando Machado\*  
(Psychology), Timothy O'Connor  
(Philosophy), Thomas Schwen (Education),  
Dennis Senchuk (Philosophy, Education), Dirk  
Van Gucht (Computer Science)

**Assistant Professors** Leah Savion\*  
(Philosophy), Frederick Unverzagt\* (Medical

and Molecular Genetics, Medical  
Neurobiology)

**Graduate Advisor** Professor Richard  
Shiffrin, Psychology 350, (812) 855-2722

**Degrees Offered** Doctor of Philosophy, a  
combined degree program in cognitive science  
and another discipline (for example,  
psychology, computer science, philosophy,  
linguistics, speech and hearing sciences, etc.).

The Cognitive Science Program comprises an  
interdisciplinary research program and a  
doctoral degree program. Students carry out  
intensive research projects in state-of-the-art  
computer-based laboratories. The Ph.D. degree  
in cognitive science may be a major or a minor;  
it must be associated with another department  
major. The program is designed to train  
students in theory development and model  
building (mathematical, formal, and computer  
simulation models), in empirical research, and  
in the development of the conceptual  
framework and technical skills for successful  
careers in research, teaching, business, and  
government.

## Doctor of Philosophy Degree

**Admission Requirements** Acceptance into  
the Cognitive Science Program is contingent  
upon admission by the originating  
department. Students must apply to the  
originating department and send a copy of the  
application to the Cognitive Science Program.

**Course Requirements** A minimum of 90  
credit hours, of which 32 credit hours must be  
in courses listed or cross-listed in cognitive  
science, including Q540 (3 credits), Q550 (3  
credits), Q551 or the equivalent (3 credits),  
Q733 (at least 4 semesters, maximum of 1  
credit total), and at least 6 credit hours not in  
the originating discipline and not among Q540,  
Q530, Q550, Q551, Q689, Q700, Q733, Q750,  
Q799, and Q899. The 6 outside credit hours  
may not be taken in pure research courses (the  
equivalent of Q799 and Q899). The 32 credit  
hours may include a maximum of 6 credit  
hours in pure research courses (Q799, Q899, or  
the equivalent in originating departments).  
Strong encouragement is given to  
interdisciplinary diversification. Note that  
courses may count toward the requirements of  
both cognitive science and the originating  
department.

**Tool-Skills Requirements** Students must  
satisfy three tool skills: (1) Computer  
Programming: Q530 or CSCI T501 or  
equivalent; (2) Mathematics/Logic: two  
mathematics courses, other than statistics.  
These may be either M211/M212 or 300-level  
and above. Formal logic at the 300-level or  
above either in Mathematics or Philosophy

will also satisfy this requirement; (3) Statistics:  
K300 or K310 or the equivalent.

**Qualifying Examination** There are two  
options for the qualifying examination: (a) an  
examination in the originating discipline and a  
separate comprehensive examination in  
cognitive science (these may be taken at  
separate times), or (b) a joint examination  
covering relevant areas of both the originating  
discipline and cognitive science, as determined  
by the advisory committee, and with  
permission of both the originating discipline  
and the Cognitive Science Program. The  
cognitive science examination is normally  
taken after completion of the cognitive science  
course requirements. The examination may be  
repeated only once.

**Public Colloquium** The student must give a  
colloquium advertised at large to the  
university community, covering some aspect  
of the student's research in cognitive science.  
The colloquium may be given as part of the  
colloquium series (Q733) or as a separately  
arranged event. The research covered may be  
from any stage of the student's career,  
including (but not restricted to) the thesis  
research.

**Final Examination** The public and oral  
defense of the dissertation will be conducted  
jointly with the student's originating  
discipline.

**Ph.D. Minor in Cognitive Science** Graduate  
students obtaining a Ph.D. in an originating  
discipline may find that discipline gives them  
the option of taking a minor in cognitive  
science. To obtain such a minor, students must  
satisfy the following requirements: (a) obtain  
approval from the Cognitive Science Program;  
and (b) complete Q540, Q550, at least two  
semesters of Q733, and at least 6 other credit  
hours in cognitive science courses not in the  
originating discipline.

## Certificates in Cognitive Science

The Cognitive Science Program is extremely  
broad, ranging from psychology to business to  
anthropology to computer science, to name  
just a few. Students in other disciplines may  
elect to focus on an area or areas within the  
broad range of cognitive science. Certificates  
are open to students upon request; several  
different cognitive science certificate programs  
are described in the following pages. Note that  
certificates are not required for a joint Ph.D.  
degree. The student will inform the cognitive  
science office, the student's cognitive science  
advisor, and the certificate director of an intent  
to pursue a certificate.

### General Requirements for Certificates

1. As soon as the student decides to pursue a certificate, a written proposal must be submitted to the Certificate Steering Committee giving a detailed course of study. The proposal may be a revised draft of an earlier proposal not approved, or an alteration of a previously approved proposal, and may contain a request for a revision of any of the stated requirements. The proposal must be approved by the Certificate Steering Committee. The student must file a copy of the approved proposal with the Cognitive Science Program office.

3. The Certificate Steering Committee must attest that the approved course of study has been completed successfully. At this time, the University Graduate School will be notified of the certificate completion. Ideally, requirements and course work for certificates should be completed at the time of nomination to candidacy.
4. The certificate is awarded upon completion of requirements 1 through 3 and completion of the joint Ph.D. Achievement of the certificate will be noted on official transcripts.

### Certificate in Dynamical Systems in Cognitive Science

Students will develop an understanding of problems introduced by a dynamical perspective on cognitive phenomena and of the theoretical and methodological means of addressing those problems as found in dynamical systems. Each student will apply this understanding and analysis to a content area of their choice including study of perception, cognition, motor behavior, neural networks, language, and development.

#### Specific Requirements

1. Prerequisites: Students should have taken courses in calculus (two to three semesters) at the very least. In addition, courses in differential equations, linear algebra, and (point set) topology would be helpful.
2. Required course: Students must take Q580, Introduction to Dynamical Systems in Cognitive Science.
3. Additional advanced electives: Students must complete an additional 4 courses selected from among the following: Q550 Models in Cognitive Science; P651 Perception/Action; X755 Philosophical Issues in Chaos and Nonlinear Dynamics; L541 Phonetics; L641 Advanced Phonetics; P561 Philosophy of Mind; B551 Element of Artificial Intelligence; B552 Knowledge-Based Computation; B553 Biomorph Computation; B651 Natural Language Processing; B652 Computer Models of

- Symbolic Learning; B657 Computer Vision; B659 Topics in Artificial Intelligence; P717 Evolutionary Basis of Learning; P641 Dynamic Systems in Motor Organization and Motor Development; P615 Developmental Psychology; X755 Fractals; Q750 Neural Networks as Models of Cognition; P657 Theories of Development. Qualifying exams. At least one question on dynamical systems must be included on the student's qualifying exams.
4. Dissertation. The student's dissertation must include application of dynamical systems to the specific problem under study.

### Certificate in Human-Computer Interaction

#### Requirements for the Cognitive Science Certificate in HCI (12credit hours)

Students will demonstrate proficiency in a broad range of courses involving the applied cognitive analysis of human-computer interaction (HCI). The program will emphasize the theoretical and methodological issues associated with designing and evaluating cognitively compatible user interfaces to interactive technologies.

#### Specific Requirements

1. The student must submit a written proposal to the Certificate Steering Committee giving a detailed course of study. The proposal may be a revised draft of an earlier proposal, or an alteration of a previously approved proposal, and may contain a request for a revision of any of the stated requirements. The proposal must be approved by the Steering Committee. Students must take L542 Introduction to HCI (or equivalent).
2. Students for the Cognitive Science Certificate must complete an additional four courses selected from among the following to ensure courses are taken from at least two departments other than the student's home department: L578 User Interface Design for Information Systems  
L576 Digital Libraries  
L642 Information Usage and the Cognitive Artifact  
L697 Advanced Topics in Information Systems  
P450 Human Factors (graduate credit awarded with extra assignments)  
P544 Applied Cognition and Learning Strategies  
R685 Human-Computer Interface Design  
P600 Topical Seminar in Learning Cognition and Instruction  
A546 User Interface Programming  
P565-566 Software Engineering I-II

- B665/B666 Software Engineering Management/Implementation  
B581 Advanced Computer Graphics  
B582 Image Synthesis  
B689 Topics in Graphics and Human Computer Interaction  
B669 Topics in Database and Information Systems  
T541 Processes and Effects: Individual Level Theory and Research  
T571 Applied Emotional and Cognitive Psychology Theory  
T602 Seminar in Processes and Effects: The Information processing of Media.  
S522 Digital Signal Processing  
S601 MIS Research Topics in Applications Systems Design  
S602 MIS Research Topics in Administration and Technology  
3. The student's dissertation must address issues related to human-computer interaction.

The Cognitive Science Certificate in HCI is awarded upon completion of the above requirements and completion of the requirements for the Ph.D. (either as a joint major in Cognitive Science and a home department, or as a Cognitive Science minor and a major in a home department).

### Certificate in Language and Speech

Students will demonstrate proficiency in a broad range of topics that focus on issues related to language and speech. The program of study will emphasize mastery of language structure, language processing, and computational approaches to linguistic analysis. An independent research project exploring some facet of language and speech will be required.

#### Specific Requirements

1. Students must complete at least five approved graduate courses in the area of language and speech.
2. Courses in language and speech must be taken in at least two different departments.
3. Courses must include at least one dealing with language structure and at least one dealing with language processing or acquisition. Courses in language structure include most linguistics courses, Philosophy P520, and Philosophy P720. Courses in processing and acquisition include Psychology P623, Computer Science B651, Speech and Hearing Sciences S530, and periodic seminars on language-related topics in these departments.
4. Students must demonstrate familiarity with computer modeling of cognitive processes. This requirement can be met through course work (Q580, Psychology P556, or various courses in computer science,

including B551, B552, B553, B651, and B652) or through a written report of research which includes a computer program written by the student. This report could be a master's or Ph.D. thesis.

5. The student's cognitive science qualifying examination must include at least one section on a topic in language and speech.
6. The student's dissertation must address issues related to language and speech.

### Certificate in Logic, Language, and Computation

The area covered by this certificate is applied logic, i.e., logic as applied to information processing. It is an area of research which is of increasing importance in artificial intelligence and computer science. Students will demonstrate their mastery of courses having to do with symbolic information processing.

#### Specific Requirements

The requirements include at least 18 credit hours of course work (including research and seminars). At least two courses must be taken outside the student's home department. Each proposal for certification would need to demonstrate both breadth and depth in the general area of logic, language, and computation.

1. Prerequisites: Students should demonstrate mathematical maturity by having taken one or more courses in the following: set theory, discrete mathematics, abstract algebra, linear algebra, topology, and mathematical logic.
2. Students must take Philosophy P505/P506 Introduction to Logic Theory, or demonstrate equivalent knowledge of completeness for first-order logic, together with the Gödel incompleteness and undecidability results. If students demonstrate knowledge of this material, they may take other courses from the lists of advanced courses given below.
3. Students must select at least two or more advanced courses from a list that includes B501 Theory of Computing; B510 Introduction to Applied Logic; P550 Systems of Modal Logic; P551 Philosophy and the Foundations of Mathematics; P552 Philosophy of Logic; P600 Visual Reasoning; L626 Semantics of Natural Language; L640 Mathematical Methods in Linguistics; M682 Model Theory; M689 Logic and Decidability; and M583 Set Theory.
4. Students must take a research seminar, either one generally designated as such (e.g., P750 Logic Theory, P751 Logic, or M781-782 Selected Topics in Mathematical Logic) or another seminar approved by the Logic Certificate Committee.

- Students will be expected to take active part in the weekly Logic Seminar.
- The student's dissertation must address issues in the general area of logic, language, and computation.

### Certificate in Modeling in Cognitive Science

Students will demonstrate their mastery with a broad selection of courses involving mathematical and computer simulation approaches to modeling, with a specialization in at least one area of modeling, and with a research project involving modeling. The program will emphasize both basic techniques and applications in particular content areas.

#### Specific Requirements

- Students must fulfill 18 credit hours of courses in the modeling area. Required course: Q550 Models in Cognitive Science, and at least five additional courses in modeling (15 credits minimum).
- These courses must demonstrate both breadth and specialization, and a grasp of both methods and applications. The course options given below provide examples of courses currently appropriate to accomplish these goals.  
The courses should include at least one course in basic techniques and methods (P605 Introduction to Mathematical Psychology; Q580 Introduction to Dynamic Systems in Cognitive Science; M447-M448 Mathematical Models and Applications; P550 Systems of Modal Logic); and at least one course in applications (Q750 Neural Networks as Models of Cognition; B651 Natural Language Processing; B652 Computer Models of Symbolic Learning; L611 Models of Linguistic Structure; P648 Choice Behavior). The selected courses must be taken from at least two departments excluding courses listed only in the Cognitive Science Program. These courses may not include a course whose content consists almost entirely of a research project (such courses and projects are separately covered below).
- Students must demonstrate a grasp of modeling in research, either through course work (Q689 Computer Simulation Project; P556 Independent Computer Project), or through a written report of research involving modeling (includes master's or Ph.D. projects).
- The Ph.D. qualifying examination in the Cognitive Science Program must contain at least one section on a modeling-related topic.

### Courses

**Q530 Programming Methods in Cognitive Science (3 cr.)** An introduction to computer programming methods for artificial intelligence and computer simulation of cognitive models. Emphasis on the necessary data structures and their applications to cognitive science. Programming projects may be related to state-space search for problem solving and game playing, production systems, and cognitive modeling tasks including memory models and neural simulations.

**Q540 Introduction to Cognitive Science (3 cr.)** Representative readings within various disciplines contributing strongly to cognitive science. Discussion of the methods of cognitive science including models. Illustrations of approaches to complex cognition from such areas as cognitive psychology, linguistics, artificial intelligence, philosophy of mind, and neuroscience.

**Q550 Models in Cognitive Science (3 cr.)** An introduction to modeling in various areas of cognitive science, including computer simulation models of complex cognition, models within artificial intelligence, models based on neural mechanisms and networks, and formal and mathematical models in areas such as psychology, linguistics, and philosophy.

**Q551 The Brain and Cognition (3 cr.)** An introduction to neural mechanisms underlying complex cognition, and a survey of topics in neuroscience related to cognition. It provides a solid background in human biopsychology.

**Q580 Introduction to Dynamic Systems in Cognitive Science (3 cr.)** Introduction to linear and nonlinear dynamic systems, including catastrophe and chaos theory. Main aspects include: 1) understanding the basic quantitative theory and techniques of dynamic systems; 2) illustration of major concepts and systems behavior with the aid of computer graphics and numerical software, and 3) examples from cognitive science.

**Q689 Computer Simulation Project (3 cr.)** The student will develop and test a computer simulation of some aspect of cognition. The student will produce a working, documented computer program, and a paper describing both the workings of the program and tests of the program (either theoretical tests, tests of the program against data, or both).

**Q700 Seminar in Cognitive Science (3 cr.)** Intensive study of specific topics in cognitive science. Topics and instructors will change regularly. May be repeated.

**Q733 Colloquium Series (0-1 cr.)** Colloquia and research presentations by members of the cognitive science community, both IU faculty and guest speakers. Normally taken each semester by students in the cognitive science program without credit, but may be taken once for 1 credit hour.

**Q750 Neural Networks as Models of Cognition (3 cr.)** Topical seminar featuring analysis of models based on neural networks. Will usually feature extensive exploration of one or more examples of models of this type.

**Q799 Readings and Research in Cognitive Science (1-3 cr.)** Tutorial research and study in specialized topics in cognitive science.

**Q899 Dissertation Research (1-12 cr.)** Dissertation research in specialized topics in cognitive science.

### Cross-Listed Courses

The following courses may be used to satisfy the credit hour requirements of the Cognitive Science Program. Additional courses whose content in a given year is sufficiently relevant to cognitive science (including seminars, new courses, or courses with topical content) may also be used to satisfy the requirements, conditional upon acceptance by the Cognitive Science Program of a petition including justification.

#### Anthropology

**L580 Semiotics and Human Ethology (2 cr.)**  
**L840 Ethnolinguistic Seminar (1-2 cr.)**

#### Kelley School of Business

**A754 Accounting Seminar in Information Systems (3 cr.)**  
**K518 Introduction to Probabilistic Models (3 cr.)**

**K605 Multidimensional Scaling (3 cr.)**  
**K606 Systems Simulation (3 cr.)**  
**K620 Bayesian Inference and Decision (3 cr.)**  
**M544 Managing Advertising and Sales Promotion (1.5 cr.)**

**P525 Production Planning and Control Systems (1.5-3 cr.)**  
**P620 Decisions and Artificial Intelligence (3 cr.)**

**S505 Introduction to Management Information Systems (3 cr.)**  
**S535 Advanced Topics in Management Information Systems (3 cr.)**  
**S560 Management Information Systems Design and Applications (3 cr.)**

**S600 Research Design and Methods in Management Information Systems (3 cr.)**  
**S601 Management Information Systems Research Topics in Application Systems Development (3 cr.)**

**S602 Management Information Systems Research Topics in Administration and Technology (3 cr.)**  
**Z604 Cognitive Theories of Organizational Behavior (3 cr.)**

**S523 Communication and Culture**  
**S525 Theory and Research in Persuasion (3 cr.)**

**S633 Studies in Interpersonal Communication (3 cr.)**

#### Computer Science

**B501 Theory of Computing (3 cr.)**  
**B510 Introduction to Applied Logic (3 cr.)**  
**B522 Programming Language Foundations (3 cr.)**  
**B551 Elements of Artificial Intelligence (3 cr.)**  
**B552 Knowledge-Based Computation (3 cr.)**  
**B553 Biomorph Computation (3 cr.)**  
**B621 Advanced Concepts in Programming Languages (3 cr.)**  
**B622 Programming Language Type Systems (3 cr.)**  
**B651 Natural Language Processing (3 cr.)**  
**B652 Computer Models of Symbolic Learning (3 cr.)**  
**B657 Computer Vision (3 cr.)**  
**B659 Topics in Artificial Intelligence (1-6 cr.)**

#### Economics

**E520 Fundamentals of Microeconomics Optimization Theory and Economic Analysis (3 cr.)**  
**E521 Theory of Prices and Markets I (3 cr.)**  
**E621 Theory of Prices and Markets II (3 cr.)**  
**E624-E625 Mathematical Economics I-II (3-3 cr.)**  
**E660 Public Economics I (3 cr.)**  
**E671-E672 Econometrics I-II (3-3 cr.)**  
**E724 Seminar in Economic Theory (3-6 cr.)**

#### School of Education

**A573 Technology and Management (3 cr.)**  
**H538 Critical Thinking and Education (3 cr.)**  
**H636 Philosophical Psychology and Education (3 cr.)**  
**H650 Theory of Knowledge and the Educational Process (3 cr.)**  
**L501 Critical Reading in the Content Areas (3 cr.)**  
**L530 Topical Workshop in Language Education (1-6 cr.)**  
**P544 Applied Cognition and Learning Strategies (3 cr.)**  
**P530 Instructional Psychology (3 cr.)**  
**P540 Learning and Cognition in Education (3 cr.)**

P550 Cognition and Semiotics (3 cr.)  
 P600 Topical Seminar in Learning, Cognition, and Instruction (3 cr.)  
 P640 Thinking and Learning in Social Contexts (3 cr.)  
 R685 Topical Seminar in Instructional Systems Technology (1-3 cr.)  
 R690 Application of Research Methods to Instructional Systems Technology Issues (3 cr.)  
 R695 Topical Inquiry Seminar in Instructional Systems Technology (3 cr.)  
 Y530 Topics in Computer Analysis of Educational Data (1-3 cr.)  
 Folklore  
 F714 Paradigms of Ethnomusicology (3 cr.)  
 F722 Colloquium in Theoretical Folklore/Ethnomusicology (3 cr.)  
 F736 Folklore and Language (3 cr.)  
 French and Italian  
 F675 Studies in French Linguistics (3 cr.)  
 School of Health, Physical Education, and Recreation  
 K690 Seminar in Human Performance: Theories of Skill Acquisition (1-3 cr.)  
 P558 Neuromuscular Control of Movement (3 cr.)  
 History and Philosophy of Science  
 X551-X552 Survey of the Philosophy of Science I-II (3 cr.)  
 X755 Special Topics in the Philosophy of Science (2-5 cr.)  
 School of Library and Information Science  
 L542 Introduction to Human-Computer Interaction (HCI) (3 cr.)  
 L578 User Interface Design for Information Systems (1-3 cr.)  
 L597 Topics in Library and Information Science (1-4 cr.)  
 L642 Information Usage and the Cognitive Artifact (3 cr.)  
 L644 Online Information Retrieval (3 cr.)  
 Linguistics  
 L503 Survey of Linguistics I (3 cr.)  
 L522 Survey of Applied Linguistics (3 cr.)  
 L530 Introduction to Historical Linguistics (3 cr.)  
 L532 Second Language Acquisition (3 cr.)  
 L541 Introductory Phonetics (4 cr.)  
 L542 Phonological Analysis (3 cr.)  
 L543 Syntactic Analysis (3 cr.)  
 L545 Semantics (3 cr.)  
 L600 Advanced Phonological Description (3 cr.)  
 L602 Advanced Syntax (3 cr.)  
 L611 Models of Linguistic Structure (3 cr.)  
 L614 Alternative Syntactic Theories (3 cr.)  
 L625 Bilingualism and Language Contact (3 cr.)  
 L630 Lexicology (3 cr.)  
 L632 Current Research in Second-Language Acquisition (3 cr.)  
 L641 Advanced Phonetics (3 cr.)  
 L645 Linguistics and Computers (3 cr.)  
 L710 Seminar in Acoustic Phonetics (4 cr.)  
 L711 Seminar in Applied Linguistics (4 cr.)  
 L712 Seminar in Phonology (4 cr.)  
 L714 Seminar in Syntax (4 cr.)  
 L780 Seminar in Structural Semantics (4 cr.)  
 Mathematics  
 M403-M404 Introduction to Modern Algebra I-II (3-3 cr.)  
 M441-M442 Introduction to Partial Differential Equations with Applications I-II (3-3 cr.)  
 M447-M448 Mathematical Models and Applications I-II (3-3 cr.)  
 M463-M464 Introduction to Probability Theory I-II (3-3 cr.)  
 M540-M541 Partial Differential Equations I-II (3-3 cr.)  
 M544-M545 Ordinary Differential Equations I-II (3-3 cr.)  
 M546 Control Theory (3 cr.)  
 M548 Mathematical Methods for Biology (3 cr.)  
 M560 Applied Stochastic Processes (3 cr.)  
 M563-M564 Theory of Probability I-II (3 cr.)  
 M568 Time Series Analysis (3 cr.)  
 M569 Statistical Decision Theory (3 cr.)  
 M571-M572 Analysis of Numerical Methods I-II (3-3 cr.)  
 M584 Recursion Theory (3 cr.)  
 School of Music  
 E519 Psychology of Music (3 cr.)  
 E530 Learning Processes in Music (3 cr.)  
 T561 Music Theory: Variable Topics (3 cr.)  
 Neural Science  
 N500 Neural Science I (4 cr.)  
 N501 Neural Science II (3 cr.)  
 N510 Cellular and Molecular Neuroscience (3 cr.)  
 N611 Neural Basis of Sensory Function (3 cr.)  
 N613 Neural Mechanisms of Hearing (3 cr.)  
 School of Optometry  
 V767 Electrophysiology of Vision (3 cr.)  
 V791 Quantitative Methods for Vision Research (3 cr.)  
 Philosophy  
 P350 Logic of Sets (3 cr.)  
 P620 Attitudes and Attitude Change (3 cr.)  
 P623 Psychology of Language (3 cr.)  
 P635 Applied Human Learning (3 cr.)  
 P638 Experimental Psychology of Reading (3 cr.)  
 P643 Perception and Sensory Memory (3 cr.)  
 P644 Attention and Short-Term Memory (3 cr.)  
 P645 Learning and Long-Term Memory (3 cr.)  
 P646 Knowledge Systems and Problem Solving (3 cr.)  
 P647 Decision Making under Uncertainty (3 cr.)  
 P648 Choice Behavior (3 cr.)  
 P651 Perception/Action (3 cr.)  
 P653 Analysis of Variance (3 cr.)  
 P654 Multivariate Analysis (3 cr.)  
 P658-P659 Mathematical Models in Psychology I-II (4-4 cr.)  
 P665 Psychophysics of Hearing (3 cr.)  
 P747 Seminar in Cognitive Psychology (1-3 cr.)  
 P820 Social Perception (3 cr.)  
 Semiotic Studies  
 S601 Introduction to Semiotic Studies (3 cr.)  
 S604 Classics of Modern Semiotics (3 cr.)  
 S650 Topics in Semiotics (3 cr.)  
 S660 Readings and Research in Semiotics (1-3 cr.)  
 Slavic Languages and Literatures  
 L599 Prague School Linguistics and Poetics (3 cr.)  
 Sociology  
 S633 Social Interaction: Interpersonal Relations (3 cr.)  
 S656 Mathematical Applications in Sociology (3 cr.)  
 S659 Qualitative Methods in Sociology (3 cr.)  
 S700 Topical Seminar (3-12 cr.)  
 Speech and Hearing Sciences  
 S501 Neural Bases of Speech and Language (3 cr.)  
 S502 Acoustic Phonetics (2 cr.)  
 S515 Topical Seminar in Speech Pathology (1-6 cr.)  
 S520 Theoretical Bases for Phonological Disorders (3 cr.)  
 S522 Digital Signal Processing (3 cr.)  
 S530 Language Acquisition (3 cr.)  
 S538 Language Development in Atypical Populations: Learning Disabilities, Autism, and Mental Retardation (3 cr.)  
 S555 Motor Speech Disorders (3 cr.)  
 P351 Formal Semantics (3 cr.)  
 P505-P506 Logical Theory I-II (3-3 cr.)  
 P520 Philosophy of Language (3 cr.)  
 P550 Systems of Modal Logic (3 cr.)  
 P551 Philosophy and Foundations of Mathematics (3 cr.)  
 P552 Philosophy of Logic (3 cr.)  
 P560 Metaphysics (3 cr.)  
 P561 Philosophy of Mind (3 cr.)  
 P562 Theory of Knowledge (3 cr.)  
 P570 Philosophical Psychology (3 cr.)  
 P571 Philosophy of Nature (3 cr.)  
 P720 Seminar: Philosophy of Language (4 cr.)  
 P750 Seminar: Logical Theory (4 cr.)  
 P751 Seminar: Logic (4 cr.)  
 P760 Seminar: Metaphysics and Epistemology (4 cr.)  
 Political Science  
 Y673 Empirical Theory and Methodology (3 cr.)  
 Psychology  
 P417 Animal Behavior (3 cr.)  
 P435 Laboratory in Human Learning and Cognition (3 cr.)  
 P438 Language and Cognition (3 cr.)  
 P502 Developmental Psychology (3 cr.)  
 P503 Complex Cognitive Processes (3 cr.)  
 P505 Physiological Psychology (3 cr.)  
 P506 Sensory Psychology (3 cr.)  
 P507 Theories of Learning (3 cr.)  
 P510 Principles of Research in Psychology (2 cr.)  
 P511 Social Psychology (3 cr.)  
 P514 Methods in Biopsychology (2 cr.)  
 P517 Methods in the Direct Observation of Behavior (3 cr.)  
 P526 Neurobiology of Learning and Memory (3 cr.)  
 P527 Developmental Psychobiology (3 cr.)  
 P528 Experimental Analysis of Economic Behavior (3 cr.)  
 P541 Individual Differences in Intellectual Abilities (3 cr.)  
 P553-P554 Advanced Statistics in Psychology I-II (3-3 cr.)  
 P555 Computer Application in Psychological Research (3 cr.)  
 P557 Representation of Structure in Psychological Data (3 cr.)  
 P564 Psychophysics (3 cr.)  
 P565 Psychophysics of Vision (3 cr.)  
 P605 Introduction to Mathematical Psychology (3 cr.)  
 P615 Developmental Psychology I (3 cr.)  
 P616 Advanced Child Psychology (3 cr.)



- S578 **Audiological Instrumentation and Calibration** (3 cr.)
- S601 **Experimental Phonetics II** (3 cr.)
- S674 **Advanced Seminar in Audiology** (1-3 cr.)
- S702 **Seminar in Experimental Phonetics** (3 cr.)

#### Telecommunications

- T541 **Theory and Research: Individual Level** (3 cr.)
- T602 **Topical Seminar in Telecommunications Processes and Effects** (1-3 cr.)
- T641 **Children and Media** (3 cr.)

## Communication and Culture

College of Arts and Sciences  
Bloomington

Chairperson Professor Robert Ivie

Departmental URL:

<http://www.indiana.edu/~speech/grad.html>

### Graduate Faculty

- Distinguished Professor** Richard Bauman (Folklore)
- Chancellors' Professor** James Naremore
- Professors** James Andrews, Patricia Hayes Andrews, Gary CronkHITE, Carol Greenhouse (Anthropology), Robert Ivie, William Wiethoff
- Associate Professors** Chris Anderson, Carolyn Calloway-Thomas, Michael Curtin, Joan C. Hawkins,\* Barbara Klingler, John Lucaites, Beverly Stoelje (Folklore)
- Assistant Professors** Nicola Evans,\* Jane Goodman,\* Roopali Mukherjee,\* Robert Terrill\*
- Adjunct Professors** Peter Bondanella (French and Italian), Ingeborg Hoestery (Germanic Studies), Sumie Jones (East Asian Languages and Cultures), Douglas Maynard (Sociology), Darlene Sadlier (Spanish and Portuguese)
- Adjunct Associate Professors** Gloria Gibson (Afro-American Studies), Yingjin Zhang (East Asian Languages and Cultures)
- Director of Graduate Studies** Associate Professor John Lucaites, 809 E. Seventh Street, (812) 855-5411
- Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy
- Students develop individualized programs of study in consultation with a plan of study committee consistent with the department's interpretive focus on the relationship between

3. With appropriate approvals it is possible to count up to 6 credit hours of undergraduate courses toward the 36 credit hour minimum.
4. Indiana University graduates may transfer a maximum of 12 graduate hours from other institutions.

### Doctor of Philosophy Degree

**Admission Requirements** M.A. degree in a communication-related discipline (e.g., rhetoric, communication and culture, film, media studies, etc.) or its equivalent in a related field such as anthropology, education, English, folklore, history, political science, psychology, or sociology. Admission decisions are based upon such evidence as scores on the Graduate Record Examination General Test, undergraduate and graduate courses taken and grades received, a scholarly writing sample, and letters of recommendation.

**Course Requirements** A minimum of 90 credit hours, of which eight (3 or 4 credit hour) courses past the M.A. degree must be taken in the Department of Communication and Culture. Dissertation not to exceed 15 credit hours in S810. A minimum of 30 credit hours must be in courses numbered 500 and above.

**Minor** Outside minor required, which must be approved by the advisory committee. With approval of the advisory committee, a second minor may be taken.

**Foreign Language Requirement** Reading proficiency in a foreign language.

**Demonstrated by course work or examination. Qualifying Examination** Written and oral; may be taken twice only.

### Ph.D. Minor in Communication and Culture

**Requirements** A minimum of 15 credit hours of course work in communication and culture, including one course from C501, C502, and C503. Course work must be completed with a grade average no lower than B (3.0). Students may transfer a maximum of 3 hours from another university toward this degree with the approval of the director of graduate studies in the Department of Communication and Culture.

To arrange for the minor in communication and culture, students should consult with the director of graduate studies, who will recommend a member of the faculty to serve as an advisor. In consultation with the advisor, a program of study will be outlined and a copy of the plan filed with the director of graduate studies.

- C405 **Human Communication Theory** (3 cr.)
- C406 **The Study of Public Advocacy** (3 cr.)
- C407 **Rhetoric and History** (3 cr.)
- C419 **Classical Oratory** (3 cr.)
- C424 **Empirical Research Methods in Speech Communication** (3 cr.)

- C427 **Cross-Cultural Communication** (3 cr.)
- C440 **Organizational Communication** (3 cr.)
- C444 **Political Communication** (3 cr.)

C501 **Introduction to Rhetorical Studies** (3 cr.) Introduction to the relationship between the theory and practice of rhetoric in the history of Western civilization from the fourth century B.C.E. to the present.

C502 **Introduction to Performance In Communication and Culture** (3 cr.) Introduction to various theories and methods of research in human communication studies. Includes theories of discourse and culture, message production and reception, symbol systems, social constructionism, relational communication, conversation analysis, social influence, communication competence, and other topics.

C503 **Introduction to Media Theory and Aesthetics** (3 cr.) Study of classical and contemporary theoretical texts.

C505 **Rhetorical Criticism** (3 cr.) Introduction to traditional and contemporary methods of rhetorical criticism. Investigation of principal critical theories and their application.

C506 **Methods of Media Research** (3 cr.) Introduction to research methods used in critical studies of media and culture.

C507 **Methods of Performance Research in Communication and Culture** (3 cr.) Survey of research methods in the study of performance in communication and culture. The emphasis is on qualitative methods; course work includes exercises in participant observation and interviewing.

C511 **Rhetorical Theory I** (3 cr.) A chronological survey of major developments in Western theories of rhetoric from the fifth century B.C.E. through the fifth century C.E. Critical reviews of scholarship and a research paper are required.

C512 **Rhetorical Theory II** (3 cr.) A chronological survey of major developments in Western theories of rhetoric from the post-twentieth century through the beginning of the emerging influence of science, popular government, and psychology on rhetorical theory.

C513 **Rhetorical Theory III** (3 cr.) A topical survey of the major problems and issues confronted in twentieth-century American and Continental rhetorical theory.



- C523 Theory and Research in Persuasion (3 cr.)** Contemporary theories of persuasion and their research base; includes definitions, historical foundations, opinion measurement, source characteristics, receiver characteristics, group effects, interpersonal influence, anticipatory effects, role of language, role of nonverbal behavior, balance theories, theories of subjective probability, subjective expected utility theories, and role of memory and cognition. Research paper required.
- C529 Theory and Research in Small Group Communication (3 cr.)** Examines the small group communication process through the study of diverse theoretical perspectives and related research. Particular emphasis in socioemotional and structural variables that influence decision making, including pressures for uniformity, problem-solving strategies, inference-making cohesiveness, status, and power.
- C530 Institutions and Communicative Practice (3 cr.)** The comparative study of institutions as communicatively constituted. Topic varies; may be repeated for credit.
- C533 Interpersonal Communication (3 cr.)** Surveys the social scientific theory and research concerning interpersonal communication. Topics for discussion usually include relational formation and dissolution, the communication dynamics of ongoing relationships, personality variables and their relationship to interaction, and the interpersonal consequences of interaction, such as relational control, influence, and behavior change.
- C534 British Public Address (3 cr.)** The rhetorical analysis of British oratory from the late eighteenth to the twentieth century.
- C537 Public Dialogue in America to 1865 (3 cr.)** Public communication as a force in political and intellectual history; study of selected speakers in relation to social and economic issues and literary developments.
- C538 Public Dialogue in America, 1865-1945 (3 cr.)** Public communication as a force in political and intellectual history; study of selected speakers in relation to social and economic issues and literary developments.
- C539 Public Dialogue in America after 1945 (3 cr.)** Public communication as a force in American political and intellectual history since 1945; critical analysis of discourse related to political, social, and economic issues.
- C545 Introduction to Pedagogy in Communication and Culture (3 cr.)** Fundamentals of teaching as applied to communication. Focuses on teaching methods and culture, criticism, communication apprehension, textbook selection, test construction, gender in the classroom, and the
- place of communication and culture in the liberal arts and sciences.
- C552 Media Institutions and the Production of Culture (3 cr.)** Study of media institutions, work practices, products, and their relationships with their sociopolitical environment.
- C560 Motion Picture Production (3-4 cr.)** Introduction to 16mm film production, including cinematography, editing, and sound.
- C561 Intermediate Motion Picture Production (4 cr.)** P: CMCL C560. Introduces students to the making of 16 mm sound films, including the recording and editing of synch sound. The various stages of production are explored in lectures, lab exercises, and discussions. Each student designs, directs, and edits a short synch sound film and participates as a crew member in the other students' productions.
- C562 The Screenplay (3 cr.)** Terminology of screenwriting and form of the screenplay. Development of the screenplay from story outline and treatment to the shooting script. The original screenplay. Techniques of adaptation. Contributions of the screenwriter to the *mise-en-scène*. Exercises in full-length culmination in the writing of a full-length original screenplay or adaptation.
- C592 Media Genres (3 cr.)** Topic varies; the evaluation of typical genres; problems of generic description of definition; themes, conventions, and iconography peculiar to give genres, etc. May be repeated for credit.
- C593 History of European and American Films I (3 cr.)** Survey of the development of cinema 1895-1926 (silent film era). Particular attention on representative work of leading filmmakers, emergence of film movements and development of national trends, growth of film industry, and impact of television. May be repeated once for credit with a different topic.
- C594 Media History (4 cr.)** Media historiography, topics in national history, national and international movements and trends. Topic varies. May be repeated once for credit with different topic.
- C596 National Cinemas (3 cr.)** Topics varies; historical survey of major national cinemas. Topics may include Brazilian cinema, French national cinema, German film culture, Italian cinema, Indian cinema, and others. May be repeated for credit when topic varies.
- C604 Topical Seminar in Mass Communication and Culture (1-3 cr.)** P: consent of instructor.
- C606 Media Criticism (3 cr.)** Study of the main schools and methods of media criticism. Course may be repeated once for credit with a different topic.
- C610 Identity and Difference (3 cr.)** Political, social, and cultural dimensions of identity and
- difference. Interrogates the production of marginal and dominant identities (e.g., racial, sexual, colonial) and the emergence of new forms of identification.
- C611 Studies in Rhetorical Theory (3 cr.)** Systematic review of research related to a specific issue or area in rhetorical theory. Topic varies. May be repeated for credit.
- C620 Media, Politics, and Power (3 cr.)** Examination of media institutions (including new media) through various schools of thought. May be repeated once for credit with a different topic.
- C626 Studies in Contemporary Communication (3 cr.)** Systematic review of research related to contemporary problems in the study of communication; may be theoretical, methodological, or critical. Topic varies. May be repeated for credit.
- C627 Performance in Communication and Culture (3 cr.)** Critical examination of performance as a vantage point on communication and culture in specific societies, world areas, or social formations. Topic varies. May be repeated for credit.
- C628 Studies in Argumentation (3 cr.)** A critical survey of contemporary works on argumentation. The focus is on the problem of effective and worthy justification in the realm of the contingent. Topics include the relationship between logic and argumentation, the search for standards of reasonability, and an exploration of the status of value claims. May be repeated for credit.
- C630 Studies in Public Address (3 cr.)** Investigation of rhetorical studies related to a specific historical/critical topic. Topic varies. May be repeated for credit.
- C633 Studies in Interpersonal Communication (3 cr.)** Focuses on one area of the social scientific study of interpersonal communication. The topic varies to include such issues as power and control in interactions, the formation of relationships, and the foundations of communicative competence.
- C640 Studies in Organizational Communication (3 cr.)** Critical examination of quantitative and qualitative research in the area of organizational communication. Emphasizes decision making, superior-subordinate interaction, communication networks and climate, and organizational culture. Focuses on critical assessment of research. May be repeated for credit when topic varies.
- C645 Topics in the Comparative Study of Communication and Culture (3 cr.)** Analysis of communicative forms and practices in comparative perspective. Topic varies. May be repeated for credit.
- C652 Globalization of Media (3 cr.)** Explores media institutions, practices, and texts across national borders. Topic varies. May examine particular issues such as globalization of media, transnational implications of media texts, transnational data flows, media and foreign policy. May be repeated once for credit with a different topic.
- C680 Theory and Research in Nonverbal Communication (3 cr.)** P: consent of instructor. Study of the origins, evolution, physiological bases, and present functions of nonverbal communication behavior. Special attention to the relationship of nonverbal behavior to gender, power, dominance, deception, interpersonal relationship development, and language. May be repeated for credit.
- C690 Theories of Symbolic Meaning (3 cr.)** P: Linguistics L503 or consent of instructor. Intensive study of referential, behavioral, rule-governed, and cognitive theories of symbolic meaning, with attention to comprehension of words, utterances/sentences, and extended discourse. May be repeated for credit.
- C691 Authorship in Media (4 cr.)** In-depth analysis of individuals in the media who become known as "authors." May be repeated for credit when topic varies.
- C700 Research (cr. arr.)\***
- C701 Practicum in Communication Research (3 cr.)** P: consent of instructor. Students must have ample preparation in some theoretical area and in one or more research methods. Designed to allow students to conduct a research study, including the collection and examination of data (broadly defined), to answer a question, to prove a thesis, or to test a hypothesis relating to communication/rhetorical theory. May be repeated for credit.
- C705 Seminar in Rhetorical Criticism (3 cr.)** May be repeated for credit.
- C706 Theories of Performance in Communication and Culture (3 cr.)** Critical examination of theoretical problems in the study of performance in communication and culture. Topic varies. May be repeated for credit.
- C710 Research Seminar (1-3 cr.)** May be repeated for credit.
- C711 Seminar in the History of Rhetorical Theory (3 cr.)** May be repeated for credit.
- C713 Seminar in Contemporary Rhetorical Theory (3 cr.)** May be repeated for credit.
- C726 Seminar in Contemporary Public Address (3 cr.)** May be repeated for credit.
- C727 Seminar in Cross-Cultural Communications (3 cr.)** May be repeated for credit.
- C737 Seminar in the History of Public Address (3 cr.)** May be repeated for credit.

**C790 Seminar: Pragmatic Functions of Language** (3 cr.) P: C501 and C502, or consent of instructor. Study of research dealing with the correlates of language variation, including topics such as language clarity, intensity, obscenity, style, dialects, interactions of language with perception/cognition and mental health, and the constituents of pragmatic language competence. May be repeated for credit.

**C792 Advanced Seminar in Media Theory** (3 cr.) Topic varies: advanced study in media history and theory; major movements and historical periods and their relationship to the intellectual and cultural climate of the time; studies of technology and modes of production; advanced work in genre or auteur studies; close reading of major works of media theory; new developments in theory and criticism. May be repeated for credit.

**C793 Seminar in Media** (3 cr.) Topics in media studies. May be repeated once for credit when topic changes.

**C800 M.A. Thesis** (cr. arr.)

**C810 Ph.D. Thesis** (cr. arr.)\*

## Comparative Literature

College of Arts and Sciences  
Bloomington

**Chairperson** Professor David Michael Hertz

**Departmental e-mail:** [compelit@indiana.edu](mailto:compelit@indiana.edu)

**Departmental URL:**

<http://www.indiana.edu/~complit>

### Graduate Faculty

**Distinguished Professors** Willis Barnstone (Emeritus, Spanish and Portuguese), Peter Bondanella (French and Italian), Bruce Cole (Fine Arts)

**College Professor of Cognitive Science and Computer Science** Douglas Hofstadter

**Martha C. Kraft Professor of Humanities** Fedwa Malti-Douglas

**Chancellors' Professor** James Naremore (English, Communication and Culture)

**Emeritus Professors** Salih Altoma (Near Eastern Languages and Cultures), Luis Beltrán (Spanish and Portuguese), Ernest Bernhard-Kabisch (English), Peter Boerner (Germanic Studies), Matei Calinescu (English), Claus Clüver, Mary Gaither (English), Harry Geduld, Yoshio Iwamoto (East Asian Languages and Cultures), H. James Jensen (English), Merritt Lawlis (English), Irving Lo (East Asian Languages and Cultures), Henry Remak (Germanic Studies), Mary Ellen Solt, Ulrich Weisstein (Germanic Studies)

**Professors** Gilbert Chaitin (French and Italian), Eugene Eoyang (East Asian Languages and Cultures), Ingeborg Hoerster (Germanic Studies), Kenneth R. R. Gros Louis (English), David Hertz, Roger Herzl (Theatre and Drama), Douglas Hofstadter (Cognitive Science), Sumie Jones (East Asian Languages and Cultures), Eileen Julien (African Studies), Oscar Kenschur (English, Philosophy), Giancarlo Maiorino, Breon Mitchell (Germanic Studies), Anya Peterson Royce (Anthropology), Mihály Szegedy-Maszák (Central Eurasian Studies), Albert Wertheim (English, Theatre and Drama)

**Associate Professors** Herbert Marks (English, Near Eastern Languages and Cultures, Religious Studies), Rosemarie McGerr,\* Angela Pao,\* Ilinca Zarifopol-Johnston,\* Yingjin Zhang (East Asian Languages and Cultures), Carl Ziegler\* (Germanic Studies)

**Adjunct Professors** Marvellen Bieder (Spanish and Portuguese), J. Peter Burkholder (Music), Karen Hanson (Philosophy), Gerald Larson (Religious Studies), Eleanor W. Leach (Classical Studies), William Kasch (Germanic Studies), Suzanne Sietkevych (Near Eastern Languages and Cultures), Bronislava Volkova (Slavic Languages and Literatures), Marc Weiner (Germanic Studies)

**Adjunct Associate Professors** Joan Hawkins,\* (Communication and Culture), Barbara Klingler (Communication and Culture), Helen Sword\* (English)

**Director of Graduate Studies** Spring 2000 and Fall 2000: Professor Giancarlo Maiorino, Ballantine Hall 907, (812) 855-0648 or 855-9602

**Degrees Offered** Master of Arts, dual Master of Arts, dual Master of Arts/Master of Library Science in the Comparative Literature Program and the School of Library and Information Science, Master of Arts for Teachers, and Doctor of Philosophy

### Special Program Requirements

(See also general University Graduate School requirements.)

For details about departmental rules and procedures, consult the current *Comparative Literature Handbook*.

**Admission Requirements** Graduate Record Examination General Test required. For the Ph.D., fluent reading knowledge of at least two foreign languages. For the M.A., fluent reading knowledge of at least one foreign language. Deficiencies in undergraduate work and foreign languages must be removed within one year. Only students holding the M.A. or its

equivalent will be considered for direct admission to the Ph.D. program.

### Master of Arts Degree

**Course Requirements** A minimum of 30 credit hours, 20 credit hours in comparative literature, including C501, C502, C505, C506, and a proseminar (any comparative literature graduate course other than the four core requirements).

**Language Requirements** Reading proficiency in two foreign languages.

**Master's Project** There are three ways to meet the master's project requirement: (1) by submitting a suitable term or seminar paper as a master's essay (the proseminar requirement is a suitable means for fulfilling this option); or (2) by submitting an expansion of a seminar paper; or (3) by writing a formal master's thesis. Consult the *Comparative Literature Handbook* for details. The requirement should be fulfilled by the end of the sixth semester after beginning graduate studies in comparative literature at Indiana University.

### Dual Master of Arts Degree

Students admitted to the dual Master of Arts program may obtain M.A. degrees in comparative literature and a related field with fewer credits than would be required if the two degrees were taken separately. Consult the *Comparative Literature Handbook* for details.

### Dual Master's Degree in the Comparative Literature Program and the School of Library and Information Science (M.A./M.I.S.)

The joint program consists of a total of at least 50 credit hours: a minimum of 30 credit hours in library and information science and a minimum of 20 credit hours in comparative literature. Consult the *Comparative Literature Handbook* for details.

### Master of Arts for Teachers Degree

**Admission Requirement** B.A. degree in comparative literature or an individual literature.

**Course Requirements** A total of 36 credit hours, 20 of which must be in comparative literature, including C501, C502, C505, and C506.

**Language Requirement** Certification of reading proficiency in one foreign language.

**Examination** A 90-minute written examination comparing two texts, drawn from an individual reading list. One text may be a work of art in a nonliterary medium. If two

literary texts are compared, one must be in a foreign language.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including 65 credit hours of course work, of which 35 credit hours must be in comparative literature (C501, C502, C505, and C506 required), plus dissertation (1 to 25 hours of credit).

**Minors** Two minors (subject concentrations), usually at least 12 credit hours each, or a single intensive minor, usually at least 24 credit hours.

**Language Requirement** Reading proficiency in three foreign languages.

**Qualifying Examination** One written exam on three topics (areas). The examination will take into account work done in the minor field(s). At the student's request, one part may be written in a foreign language. Oral examination will follow. The exam can be scheduled any time satisfactory arrangements can be made with the faculty.

**Final Examination** Oral defense of dissertation.

**Ph.D. Minor in Comparative Literature** Four courses in comparative literature, including C501; fluent reading knowledge of at least one foreign language.

**Ph.D. Minor in Literary Theory** Jointly administered by the Comparative Literature Program and the Department of English, the minor requires a minimum of three courses, including at least one selected from Comparative Literature C503, C504, C601, C602, and one from English G660, L605, L607, L608, or L707. Other courses approved for the minor are French and Italian F564 and F584; Germanic Studies G560 and G800; Slavic Languages and Literatures R521; Spanish and Portuguese S473 and S512; and Theatre and Drama T555 and T556. Courses other than those listed above may also be acceptable toward completion of the requirement; written consent to count such courses must be obtained in advance from the graduate advisor in the Comparative Literature Program or the Department of English.

For further details concerning departmental rules and procedures, consult the current *Comparative Literature Handbook*.

**Ph.D. Minor in Biblical Literature** See this bulletin under Institute for Biblical and Literary Studies.

## Certificate in Literary Translation

**Course Requirements** Twenty-two (22) to 24 credit hours, including C580 History and Theory of Translation; three workshops in practical translation (variations of C581, or two workshops plus C680 Topics in Translation Studies; two further courses in one of the foreign language departments, consisting either of graduate literature courses or advanced courses in the language itself.

**Language Requirements** In-depth knowledge of English and one other language.

**Translation Project** The student is required to complete an extensive written project under the guidance of a director who has been approved by the Comparative Literature Translation Committee. The project will consist of the translation of a literary or scholarly work or works into or from English, accompanied by an introductory essay. A student revising a translation originally prepared to satisfy the workshop requirements may receive a maximum of 3 credits for the revisions and introductory essay. If the project is completed independent of the workshops, a student may receive up to 4 credits. If the translation project is completed in partial fulfillment of the M.A. degree, the guidelines for the M.A. degree pertain.

### Comparative Literature Translation

**Committee** A three- or four-member translation committee of appropriate members appointed by the chairperson of the Department of Comparative Literature will oversee the coordination and consider the problems of the ongoing course work, requirements, standards, and evaluations associated with the Certificate of Translation. The committee will approve and evaluate the translation project, consulting when necessary with other faculty members, both inside and outside the comparative literature faculty.

### Courses

#### REQUIRED FOR M.A. AND PH.D. PROGRAMS

**C501 Introduction to Contemporary Literary Studies (3 cr.)** Introduces major twentieth-century ideas about the nature of literature and the principles and methods of its study, including contemporary theories that have challenged traditional approaches and inspired new ones. Among the topics to be examined are New Criticism, formalism, structuralism, deconstruction, and psychoanalytic as well as reader-response and ideological criticism.

**C502 Fields and Methods of Comparative Literature (1 cr.)** Explores the various disciplines and approaches that constitute the practice of comparative literature at Indiana

University and introduces their methods and bibliographical resources. Faculty members will lecture on their specialties. Students will carry out a bibliographical project to be completed by the end of the following semester.

**C505 Western Literary and Intellectual Traditions to 1500 (4 cr.)** Classical, biblical, and medieval texts.

**C506 Western Literary and Intellectual Traditions after 1500 (4 cr.)** An historical overview, discussing a wide range of texts.

### Theoretical and Interdisciplinary Courses

**C503 Topics in World Criticism and Theory I (4 cr.)** Selections from critics, theorists, and critical and theoretical movements before 1750 from an intercultural perspective. As topics vary, may be repeated for credit.

**C504 Topics in World Criticism and Theory II (4 cr.)** Selections from critics, theorists, and critical and theoretical movements after 1750 from an intercultural perspective. As topics vary, may be repeated for credit.

**C545 The Bible and Western Literature (4 cr.)** Questions of authority, unity, canonicity, and interpretive license studied with reference to selected texts from the Western tradition and their biblical source. Sample topics: Genesis and poetic origins; theories of inspiration; genealogy and historical narrative; hexameral epicy; forms of parable; poetry and prophecy. May be repeated for credit when topic differs.

**C546 Sexuality and the Arts (4 cr.)** A variable-topics course which examines human sexuality as manifested in various areas of the arts, including sexuality and love in Western literature, sexuality and literature in the East, and sex and censorship in the cinema. A general introduction to methodology will be included. May be repeated once for credit.

**C555 Theory and Methods of Inter-Arts Studies (4 cr.)** Examination of crucial areas of artistic interrelations and the purposes and methods of studying them. Introduces tools for analyzing individual literary, pictorial, and musical texts; concepts, terms, and approaches used in inter-art comparisons. Emphasis on signification, representation, intersemiotic transposition, imitation, illustration, style and period parallels.

**C601 Studies in the History of Theory and Criticism (4 cr.)** May be repeated for credit.

**C602 Contemporary Theoretical Issues and Approaches (4 cr.)** Examples are topics such as feminist theory, reader response criticism, hermeneutics. May be repeated for credit.

### C641 Literature in Its Intellectual and Cultural Contexts (4 cr.)

**C643 Literary Studies and the Social Sciences (4 cr.)** Topics may include politics and the

novel, new historicism, the theory of ideology. May be repeated for credit.

**C644 Literary Studies and Psychoanalysis (4 cr.)** Topics may include Freud and literature, Lacan and literary theory.

**C645 Literary Studies and Religion (4 cr.)** Topics may include traditions of Christian literature, mystical poetry. May be repeated for credit.

**C647 Literary Studies and Philosophy (4 cr.)** Major philosophical themes, such as Platonism, stoicism, skepticism, and mysticism, that appear and reappear in Western literature.

**C649 Literary Studies and the Natural Sciences (4 cr.)** Topics may include science and the theory of interpretation; the aesthetics of evolution. May be repeated for credit.

**C655 Topics in Inter-Arts Studies (4 cr.)** Investigation of selected topics concerning the interrelation between literature, music, the visual arts, dance, and intermedia and multimedia texts. May be repeated twice for credit.

**C692 Comedy in Film and Literature (4 cr.)** Evolution, styles, and techniques of film comedy in America and Europe from the beginnings of cinema to the present. Theories of comedy and humor: relationship of film comedy to comedy in fiction, drama, pantomime, circus, and vaudeville. Work of leading film comedians.

**C693 Film Adaptations of Literature (4 cr.)** Analysis of the processes and problems involved in turning a literary work (novel, play, or poem) into a screenplay and then into a film. Close study of literary and film techniques and short exercises in adaptation.

**C790 Studies in Film and Literature (4-12 cr.)** Topic varies: evolution of national literary and cinematic traditions; cinema and the theory of narrative; literary adaptation in cinema; comparative study of cinematic and literary movements (e.g., surrealism, expressionism).

### Period Courses

**C521 Ancient Greek and Roman Literature (4 cr.)**

**C523 Medieval Literature (4 cr.)**

**C525 The Renaissance and Seventeenth Century (4 cr.)**

**C533 Romanticism (4 cr.)**

**C535 The Later Nineteenth and Early Twentieth Centuries (4 cr.)**

**C537 The Twentieth Century I (4 cr.)** Early and middle twentieth century. Modernism and the avant-garde.

**C538 The Twentieth Century II (4 cr.)** P:

consent of instructor. Late twentieth century. Concentrates on postmodernism.

**C630 Studies in Literary History (4 cr.)** May be repeated for credit.

### Genre Courses

**C511 Drama (4 cr.)**

**C513 Narrative (4 cr.)**

**C515 Lyric (4 cr.)**

**C516 Non-Narrative Prose (4 cr.)**

**C610 Studies in the Theory of Genres (4 cr.)** May be repeated for credit.

**C611 Topics in Literary Genres, Modes, and Forms (4 cr.)** May be repeated for credit.

### Cross-Cultural Studies

**C571 African Literatures and Cultures I (4 cr.)**

**C572 African Literatures and Cultures II (4 cr.)**

**C573 Arabic-Western Studies (4 cr.)**

**C574 Japanese-Western Studies (4 cr.)**

**C575 Chinese-Western Studies I (4 cr.)**

**C576 Chinese-Western Studies II (4 cr.)**

**C670 Topics in Cross-Cultural Studies (4 cr.)** May be repeated for credit.

### Translation Studies

**C580 History and Theory of Translation (4 cr.)**

**C581 Workshop in Literary Translation (4 cr.)**

**C680 Topics in Translation Studies (4 cr.)** May be repeated for credit.

### Research, Teaching, and General Topics

**C507 Teaching Methods in Comparative Literature (3 cr.)** Examination of the presuppositions, methods, and goals of teaching literature in a comparative mode at the college level. Topics include teaching literature and composition, interarts, and cross-cultural approaches to literature, foreign language and translation studies, teaching literary theory, and technological resources. Practice in developing courses, assignments, and classroom strategies.

**C508 Teaching Literature and Composition (1 cr.)**

**C509 Teaching Internship in Comparative Literature (1 cr.)** A teaching internship in an undergraduate comparative literature course.

**C603 Topics in Comparative Literature Studies (4 cr.)** Explores specific problems between two literatures or between literature and another area in the humanities. May be repeated for credit.

**C604 Individual Readings in Literature (1-4 cr.)** Special readings on literature arranged with Department of Comparative Literature faculty member. Faculty authorization is required.

**C801 Research (cr. arr.)\***

**C805 Master's Thesis (cr. arr.)\***

**C810 Ph.D. Thesis (cr. arr.)\***

## Cross-Listed Courses

English

L607 History of Literary Criticism to the Enlightenment (4 cr.)

L608 History of Literary Criticism from 1750 to 1960 (4 cr.)

French and Italian

F564 Issues in Literary Theory (3 cr.)

F647 Contemporary French Theory and Criticism (3 cr.)

Slavic Languages and Literatures

R505-R506 Nineteenth-Century Russian Literature I-II (3-3 cr.)

Theatre and Drama

T555-T556 Drama Theory I-II (3-3 cr.)

T567 European Drama from Molière to Ibsen (3 cr.)

T571 Studies in Renaissance and Baroque Theatre (3 cr.)

T662 Comparative Theatre and Drama: Melodrama (3 cr.)

## Computer Science

College of Arts and Sciences  
Bloomington

Chairperson Dennis Gannon

Director of Graduate Studies Andrew J. Hanson

## Graduate Faculty

College Professor Douglas R. Hofstadter

Professors J. Michael Dunn, R. Kent Dybvig, Daniel P. Friedman, Dennis Gannon, Stanley Hagstrom (Emeritus), Andrew J. Hanson, Daniel Leivant, Michael A. McRobbie, Robert F. Port, Franklin Prosser (Emeritus), Paul W. Purdom, Edward L. Robertson, Brian C. Smith, George Springer (Emeritus), David E. Winkler (Emeritus), David S. Wise

Associate Professors Randall Bramley, Michael Gasser, Christopher Haynes, Steven D. Johnson, David Leake, Jonathan Mills, Gregory J. E. Rawlins, Dirk Van Gucht

Assistant Professors Yanhong Annie Liu,\* Scott Stoller\*

Adjunct Professor Robert Kling (Library and Information Sciences)

Adjunct Associate Professors Andrew P. Dillon (Library Science, Cognitive Science), David C. McCarty (Philosophy), Lawrence S. Moss (Mathematics)

Affiliate Member John M. Barnard

Degrees Offered Master of Science and Doctor of Philosophy

7. Cumulative GPA of at least 3.0 in all courses.  
**Creativity Requirement** One of the following options must be completed:

**R** Master's Research Project (Y790, 6 credits), consisting of a survey or original research paper at a level appropriate for publication as a departmental technical report or as a conference presentation.

**S** Master's Software Project (Y790, 6 credits), consisting of substantial individual input into a major software research and development project, documented in the public domain.

**Q** Completing one of the department's written Ph.D. qualifiers with a grade of B- or better (full, unconditional, pass), along with six additional credits in the natural and mathematical sciences (CS and Mathematics permitted), approved in advance by the Director of Graduate Studies.

**C** Adding to the CS Course Requirements three courses (9 credits or more) from the Computer Science listings: one P course carrying graduate credit, and in addition two CS courses at the 500 level or above, of which at most one can be a Y course.

**A** Adding to the CS course requirements three or more courses (9 credits or more) in an interdisciplinary program that applies computer science to another discipline. These courses must be in a program that has been approved in advance by the graduate faculty of the department; such a program may put additional constraints on the courses used to fulfill the CS course requirements.

**TH** University Master's Thesis (Y790, 6 credits), consisting of a formal master's thesis as prescribed by the University Graduate School.

## Professional Master Program

For students wishing to accelerate their graduate study by combining it with an undergraduate program, the department offers the Professional Master Program in Computer Science, which leads to a B.S. and an M.S. in five years. It requires more graduate-level courses than the combined total of the B.S. and M.S., but fewer total credits. Admission to the program can be decided at the time of enrollment in the College of Arts and Sciences, but must be decided before completing 45 credit hours. Students in the program are considered undergraduates until the end of the semester in which they complete 122 credits towards the program requirements, at which point they undergo a transition to graduate status.

## Doctor of Philosophy Degree

### Course Requirements

1. A total of 90 credit hours of graduate-level course work is required. These courses are defined as any course listed in the Graduate School Bulletin that carries graduate credit.
2. Ph.D. candidates must take at least six regular courses in computer science at the

500 level or above, including at least one P course. All A500-level courses are excluded. Of these six, there must be at least one course each in four of the nine areas (indicated by the middle digit 0-8 in advanced Computer Science courses). B501, B503, P536, B543, and Y790 are excluded from these four area courses but may be counted towards the six regular courses.

3. A grade point average of B(3.0) is required for computer science courses, in addition to the University Graduate School's requirement of a B(3.0) average for all courses taken.

### Minor Area Requirement

Three options are available:

1. An external minor awarded by another Indiana University department or graduate program approved by the Computer Science Department.
2. An internal minor: 9 computer science credits, in courses other than reading and research, and in an area other than the student's specialization. The area and the courses must be approved by the student's advisory committee. These 9 credits cannot be counted towards the six-course requirement.
3. An individualized interdisciplinary minor, as prescribed by the Graduate School Bulletin: at least 12 credits spanning at least two departments, to be recommended by the student's advisory committee and approved by the dean in advance of any course work.

**Qualifying Examination** The qualifying examination consists of two written tests (qualifiers), and an oral area qualifier.

**Written Qualifiers** The written qualifiers consist of two core qualifiers: Exam I covering Foundations and Algorithms, and Exam II covering Systems and Architecture. The written qualifiers are offered once a year in August. A student entering the program in August (or, with department approval, January) of a specific calendar year may take both exams in August of that year, the entry year, without penalty for failure. Students without deficiencies are expected to take both qualifiers in August after the first full year of study. Each qualifier may be retaken once, up to one year later, if the first non-entry attempt was unsatisfactory. Students entering with deficiencies may elect a one year delay.

**Oral Area Qualifier** The oral area qualifier is taken independently of the written qualifiers, normally no later than the first semester of the third year, even if that is the year of the second attempt at the written qualifiers. The oral area qualifier may be retaken once, normally no later than the beginning of the fourth year of study. This examination concentrates on covering in-depth knowledge of the student's intended research area; it is given by the advisory committee.

**Thesis Proposal** Given after completion of the qualifying examination (written and oral),

consisting of an oral presentation of a written research plan for the dissertation. This examination is given by the research committee.

**Dissertation** A written elaboration of significant original research, which must be successfully presented to the research committee in a defense of dissertation as described in the Graduate School Bulletin.

### Ph.D. Minor in Computer Science

Doctoral students in other departments may complete a minor in computer science by satisfying one of the following options:

1. Three computer science courses totaling not less than 9 credit hours at the 500 level or above. A 500-level course and 400-level courses are excluded with these exceptions: A595 (B401), B403, P423, P436, B438, B441, P442, and B443 are approved for graduate credit towards the Ph.D. minor.
2. A593, A594, and any two courses totaling 6 credit hours or more from the list: A595, A596, plus the computer science courses meeting the requirements of the first option above.

### Courses

Most of the Computer Science Department's courses at the 400 level and above are classified into four areas:

- Foundations (middle digit 0 or 1)
- Programming Languages (middle digit 2)
- Systems (middle digit 3 or 4)
- Applications (middle digit 5, 6, 7 or 8)

General courses not associated with a specific area are numbered with a middle digit 9. Courses that involve a major programming project are designated as "programming-in-the-large," and carry a course number with letter designation P.

A500-level courses may be taken for graduate credit by graduate students in other departments, but are not applicable towards a graduate degree in computer science. Of these, only A593, A594, A595, and A596 are available for graduate credit towards the Ph.D. minor.

**A504 Introductory C++ Programming (2 cr.) P:** Programming experience. Topics include aspects of C++ that are not object-oriented, basic data structures, standard libraries, and Unix tools for project management. Credit not given for both A504 and either A304, A597, A592, C212, H212, or BUS K201.

**A506 Object-Oriented Programming in C++ (2 cr.) P:** either A201, A304, A504, or A597. Topics include objects, classes, encapsulation, inheritance, polymorphism, templates, and exceptions. Credit not given for both A506 and either A306, A202, A592, A598, C212, or H212.

**A546 User-interface Programming (3 cr.) P:** either A201, A202, A306, C212, A506, A597,

A598, or equivalent experience. Learn to prototype and build graphical user interfaces for computer applications. Contemporary software design methodology. Students design and implement prototype interfaces to applications provided by the instructor. Extensive use will be made of both commercial and experimental software tools. Lab fee. Credit not given for both A546 and A346.

### A547 Network Technologies and Administration (3 cr.) P: A110, EDUC W200,

or equivalent computer literacy. Introduction to network principles and current network technology, both hardware and software. Network administration tools and techniques. Laboratory provides practical experience. Credit not given for both A547 and A347.

**A548 Mastering the World Wide Web (3 cr.) P:** two semesters of programming experience, or equivalent, and some knowledge of operating systems. Project-oriented course leading to ability to maintain a Web site with full functionality. Topics include background on internet network protocols and programming, Web server administration, advanced web design and authoring, Web protocols, interfacing services into the Web. Lab fee. Credit not given for both A548 and A348.

**A591 Introduction to Computer Science (3 cr.)** A first course in computer science for those intending to take advanced computer science courses. Introduction to programming and to algorithm design and analysis. Using the Scheme programming language, the course covers several programming paradigms. Lecture and laboratory. Credit not given for both A591 and C211.

**A592 Introduction to Software Systems (3 cr.) P:** programming experience. Design of computer software systems and introduction to programming. Topics include the C++ programming language and its data structure facilities; building and maintaining large projects; shell tools and system calls. Introduction to object-oriented programming. Lecture and laboratory. Credit not given for both A592 and C212.

**A593 Computer Structures (3 cr.) P:** A592. Structure and internal operation of computers. The architecture and assembly language programming of a specific computer are stressed, in addition to general principles of hardware organization and low-level software systems. Lecture and laboratory. Lab fee. Credit not given for both A593 and C335. May be applied towards the Ph.D. minor.

**A594 Data Structures (3 cr.) P:** A592. P or C: C241 and A593. Systematic study of data structures encountered in computing problems; structure and use of storage media; methods of representing structured data; and techniques for operating on data structures. Lecture and laboratory. Credit not given for both A594 and C343. May be applied towards the Ph.D. minor.

**A595 Fundamentals of Computing Theory (3 cr.) P:** C241. P or C: C212. Fundamentals of formal language theory, computation models and computability, the limits of computability and feasibility, and program verification. Credit not given for both A595 and B401. May be applied towards the Ph.D. minor; graduate credit available for M.S. candidates in computer science with special permission.

**A596 Programming Languages (3 cr.) P:** A594. Systematic approach to programming languages. Relationships among languages, properties and features of languages, and the computer environment necessary to use languages. Lecture and laboratory. Credit not given for both A596 and C311. May be applied towards the Ph.D. minor.

**A597 Introduction to Programming I (3 cr.)** Fundamental programming constructs, including loops, arrays, classes, and files. General problem-solving techniques. Emphasis on modular programming, user-interface design, and developing good programming style. Credit not given for both A597 and A201.

**A598 Introduction to Programming II (3 cr.) P:** A597, A201, A504, or A304. Advanced programming techniques: user-defined functions and types, recursion vs. iteration, parameter-passing mechanisms. Classic abstract data types and algorithms. Programming style. Object-oriented programming. Credit not given for both A598 and A202.

**B403 Introduction to Algorithm Design and Analysis (3 cr.)** Credit not given for both B403 and B503.

**P423 Compilers (4 cr.)** Credit not given for both P423 and P523.

**P436 Introduction to Operating Systems (4 cr.)** Credit not given for both P436 and P536.

**B438 Fundamentals of Computer Networks (3 cr.)** Credit not given for both B438 and B538. Not applicable towards a major in computer science.

**B441 Digital Design (4 cr.)** Credit not given for both B441 and B541. Not applicable towards a major in computer science.

**P442 Digital Systems (4 cr.)** Credit not given for both P442 and P542. Not applicable towards a major in computer science.

**B443 Introduction to Computer Architecture (3 cr.)** Credit not given for both B443 and B543.

**B501 Theory of Computing (3 cr.) P:** C241. Deterministic and nondeterministic automata, regular expressions, pumping lemmas; context-free languages, parsing, pushdown automata, context-sensitive languages, LBA, LR(k) languages, closure and decidability of language classes. Turing machines, random access machines, grammars, general recursive functions, equivalence of computation models, universal machines, relative computing. Unsolvability, semi-recursive sets, Rice's

Theorem. Space and time complexity. NP completeness.

**B502 Computational Complexity (3 cr.) P:** B501. Study of computational complexity classes, their intrinsic properties, and relations between them. Topics include time and space computational complexity. Reducibility and completeness of problems within complexity classes. Complexity of optimization problems. Complexity hierarchies. Relativization of the P =? NP conjecture. Parallel computation models and the class NC.

**B503 Algorithms Design and Analysis (3 cr.) P:** MATH M216, and C343. Models, algorithms, recurrences, summations, growth rates. Probabilistic tools, upper and lower bounds; worst-case and average-case analysis, amortized analysis, dynamization. Comparison-based algorithms: search, selection, sorting, hashing. Information extraction algorithms (graphs, databases). Graph algorithms: spanning trees, shortest paths, connectivity, depth-first search, breadth-first search.

**B510 Introduction to Applied Logic (3 cr.) P:** B501. Structures: relations between structures, term structures. Description: notation and meaning, substitution operations, first order formulas, database languages, program verification conditions, semantics valuation, normal forms, quantifier reduction, axiomatic theories. Proof: resolution, sequential calculi, natural deduction, automated theorem proving, semantic completeness. Limits of formalization: compactness, undecidability of truth, undecidability of canonical theories, non-formalizability of database theory.

**P515 Specification and Verification (3 cr.)** Tools and techniques for rigorous reasoning about software and digital hardware. Safety, reliability, security, and other design-critical applications. Decision algorithms. Projects involving the use of automated reasoning, such as model checkers, theorem provers, and program transformation. Credit not given for both P415 and P515.

**B521 Programming Language Principles (3 cr.)** Systematic approach to programming languages. Relationships among languages, properties and features of languages, the computer environment necessary to support language execution.

**B522 Programming Language Foundations (3 cr.) P:** C311 or B521, and B510. Introduction to denotational, operational, and axiomatic approaches to programming language semantics. Semantic analysis of major programming language features. Logics of programs.

**P523 Programming Language Implementation (3 cr.) P:** B521 or C311. Implementation of traditional and nontraditional computer programming languages. Compilation, including lexical analysis, parsing, optimization, code generation, and testing. Run-time support, including run-time libraries, storage management, input-output.

- Comparison of implementation techniques. Extensive laboratory exercises.
- B524 Parallelism in Programming Languages and Systems (3 cr.)** P: P436 or P536, and either C311, H311 or B521, C343 or H343. Fundamentals of parallel computation, with an emphasis on parallel programming methodology and programming languages. Topics include: Parallel algorithms. Major paradigms for parallel software construction: data parallelism, task/thread parallelism and CSP. Compiling programs for parallel computers.
- P536 Advanced Operating Systems (3 cr.)** P: C335 and C343, or honors versions. Advanced topics in operating systems, such as: multi-tasking, synchronization mechanisms, distributed system architecture, client-server models, distributed mutual exclusion and concurrency control, agreement protocols, load balancing, failure recovery, fault tolerance, cryptography, multiprocessor operating systems.
- B538 Networks and Distributed Computing (3 cr.)** P: P436 or P536. Basic concepts and technologies of computer networks. Protocols and protocol stacks. Client-server models. Distributed object technology. High-performance and high-bandwidth techniques. Distributed operating systems.
- B541 Hardware System Design I (3 cr.)** P: C335 or honors version. Structured approach to hardware design, emphasizing hardware and microprogrammed control. Boolean algebra, hardware building blocks, architecture and control, implementation issues. In the laboratory, students build a working computer using hardware prototyping technologies. Basic training in the use of design and simulation software. Lecture and laboratory.
- P542 Hardware System Design II (3 cr.)** P: B541 or B441. Depending on instructor, a selection of topics in system-level design, such as simulation, logic synthesis, high-level synthesis, codesign, embedded software, verification, test, requirements specification, and others. Projects in system-level design. Computer-aided design tools. Lecture and laboratory.
- B543 Computer Architecture (3 cr.)** P: C335 and C343 or honors versions. Fundamentals of computer design, instruction processing and performance analysis. Architecture of single-processor systems, focusing on pipelining, memory and memory hierarchies, and interconnect technology. Exploration of architecture classes such as high-performance multiprocessors, massively parallel computers, embedded systems.
- B551 Elements of Artificial Intelligence (3 cr.)** P: C343 or H343, good knowledge of LISP or Scheme. Introduction to major issues and approaches in artificial intelligence. Principles of reactive, goal-based, and utility-based agents. Problem-solving and search. Knowledge representation and design of representational vocabularies. Inference and theorem proving.
- reasoning under uncertainty, planning. Overview of machine learning.
- B552 Knowledge-Based Computation (3 cr.)** P: B551. Knowledge-based methods for artificial intelligence systems: knowledge representation, organization, and application. Typical content includes principles of memory organization, indexing and retrieval. Memory-based, analogical, and case-based reasoning. Applications to understanding, explanation, planning, and advisory systems.
- B553 Biomorphic Computation (3 cr.)** P: B551. Biologically-inspired approaches to the design of intelligent systems. Distributed and perceptually-grounded representations. Temporal processing. Neural-network approaches to vision and natural language processing. Evolutionary computation. Comparison of symbolic and biomorphic approaches to intelligence. Additional topics may include an introduction to analog computing and dynamical systems.
- B561 Advanced Database Concepts (3 cr.)** P: C241, C335, and C343 or honors versions. Database models and systems, especially relational and object-oriented; relational database design theory; structures for efficient data access; query languages and processing; database applications development; views. Transaction management: concurrency and recovery.
- P565-P566 Software Engineering I-II (3-3 cr.)** P: C343, B461 previously or B561 concurrently. Analysis, design and implementation of software systems. Requirements specification: data and process modeling. Software design methodologies. Software quality assurance: testing and verification. Software development processes.
- P573 Scientific Computing (3 cr.)** P: MATH M303 or M301, M343, and C212 or H212. For students from all scientific, engineering, and mathematical disciplines, this course provides an overview of computer hardware, software, and numerical methods that are useful on scientific workstations and supercomputers. Topics include high-performance computer architectures, software tools and packages, characteristics of numerical methods in common use, graphical presentation of results, and performance analysis and improvement.
- B581 Advanced Computer Graphics (3 cr.)** P: C343, MATH M301 or M303, or equivalent experience. Introduction to graphics hardware and software. Two-dimensional graphics methods, transformations, and interactive methods. Three-dimensional graphics, transformations, viewing geometry, object modeling and interactive manipulation methods. Basic lighting and shading. Video and animation methods.
- B582 Image Synthesis (3 cr.)** P: B581, MATH M215. Raster image display: color theory, gamma correction, and filtering. Advanced shading methods: local illumination models, global illumination models. Surface display,
- including ray tracing and Z-buffering. Solid modeling: spline surfaces, CSG, superquadrics, and deformations. Scientific visualization: isosurfaces and volume rendering.
- B599 Teaching in Computer Science (1 cr.)** General principles of teaching and practical experiences that relate to teaching computer science. An important feature of the course is the micro-teaching, in which each participant prepares and delivers short lectures to the seminar participants. Each presentation is followed by critical analysis and discussion.
- B603 Advanced Algorithms Analysis (3 cr.)** P: B503. Advanced topics in analysis of algorithms, including fast algorithms for classical problems, lower bounds results, and statistical behavior.
- B607 Philosophy of Computation (3 cr.)** P: consent of the instructor. Critical examination of the conceptual foundations of computing. Several different views assessed with respect to conceptual, explanatory, and empirical criteria. Primary focus on formal symbol manipulation, recursive function theory, effective computability, computational complexity, digitality, and information processing. Some non-standard approaches also considered: connectionism, dynamics, and artificial life.
- B609 Topics in Algorithms and Computing Theory (1-6 cr.)** P: instructor's permission. Special topics in algorithms and computing theory. May be repeated for credit with permission.
- B619 Topics in Applied Logic (1-6 cr.)** P: instructor's permission. Special topics in applied logic. May be repeated for credit with permission.
- B621 Advanced Concepts in Programming Languages (3 cr.)** P: either C311, H311, or B521. P or C: P423 or P523. Discussion of current issues in the design of programming languages. Modularity, abstraction, and static analysis. Applicative and nonapplicative models. Single and multiple processing.
- B622 Programming Language Type Systems (3 cr.)** P: C311 or B521. Theoretical foundations and engineering techniques for modern type systems, focusing on polymorphism and subtyping in typed lambda-calculi; applications, including type systems for objects, abstract data types, and modules; issues in type checker implementation and polymorphic type inference.
- B629 Topics in Programming Languages (1-6 cr.)** P: C311 or B521 and instructor's permission. Special topics in programming languages. May be repeated for credit with permission.
- B644 Very Large Scale Integration (3 cr.)** P: B441 or B541. Basic theory and practice required to convert hardware algorithms and architecture to silicon structures. Use of state-of-the-art design tools for integrated circuits. Lab fee.
- B649 Topics in Systems (1-6 cr.)** P: instructor's permission. Special topics in systems. May be repeated for credit with permission.
- B651 Natural Language Processing (3 cr.)** P: B551, R: B552 or B553. Theory and methods for natural language processing. Algorithms for sentence parsing and generation. Context-free and unification grammars. Question-and-answer systems. Analysis of narratives. Finite-state approaches to computational phonology and morphology. Machine translation. Machine learning of natural language. Speech recognition. Neural-network and statistical alternatives to symbolic approaches.
- B652 Computer Models of Symbolic Learning (3 cr.)** P: B552. Symbolic artificial intelligence methods for learning. Inductive and explanation-based generalization. Failure-driven learning. Case-based learning. Typical content includes operability of explanations and utility of learning. Goal-driven learning. Criteria for when, what, and how to learn. Learning in integrated architectures.
- B657 Computer Vision (3 cr.)** P: B551. Concepts and methods of machine vision as a branch of artificial intelligence. Basics of digital image processing. Local and global tools for deriving information from image data. Model-based object recognition and scene understanding.
- B659 Topics in Artificial Intelligence (1-6 cr.)** P: instructor's permission. Special topics in artificial intelligence. May be repeated for credit with permission.
- B661 Database Theory and Systems Design (3 cr.)** P: B461 or B561. Database models: relational, deductive, complex-object, object-oriented. Query languages: relational algebra and calculus, datalog, fixpoint logics, object-oriented query languages. Transaction management theory: concurrency control, recovery, distribution. Post-relational and object-oriented database systems.
- B665 Software Engineering Management (3 cr.)** P: B561 or BUS S560. Topics include: the high cost of software, the software life cycle, understanding programming teams, and methodologies for controlling development. Presentation of readings and supervision of programming teams producing software products required.
- B666 Software Management Implementation (1-3 cr.)** P: B665. Continuation of projects from B665. Periodic reports and a final paper required. If taken for two or more credits, an additional project or paper is required.
- B669 Topics in Database and Information Systems (1-6 cr.)** P: instructor's permission. Special topics in database and information systems. May be repeated for credit with permission.
- B673 Advanced Scientific Computing (3 cr.)** P: P573 and MATH M471. Multiprocessor organization: vectorization, memory organization, processor topologies and architectures. Models of parallelism. Programming language and systems for scientific and high performance computing. Environments for interactive scientific

experiments and databases. Distributed programming tools. Parallelism in scientific problems; parallel algorithmic techniques, parallel algorithms and models, parallel performance analysis and debugging.

**B679 Topics in Scientific Computing (1-6 cr.)**  
P: instructor's permission. Special topics in scientific computing. May be repeated for credit with permission.

**B689 Topics in Graphics and Human Computer Interaction (1-6 cr.)** P: instructor's permission. Special topics in graphics and human computer interaction. May be repeated for credit with permission.

**Y790 Graduate Independent Study (1-6 cr.)**  
Independent study under the direction of a faculty member, culminating in a written report. May be repeated for credit. R grade not allowed. The different departmental options for independent study are: Research and Reading, Software System Development, Master's Research Project, Master's Software Project, and a University Master's Thesis.

**Y890 Thesis Readings and Research (1-12 cr.)**  
Research under the direction of a member of the graduate faculty leading to a Ph.D. dissertation.

## Criminal Justice

Apply for admission online

College of Arts and Sciences  
Bloomington

Departmental URL:  
<http://www.indiana.edu/~crimjust>

## Graduate Faculty

**Professors** Robert Borkenstein (Emeritus), Coramae Richey Mann (Emerita, Afro-American Studies), Harold Pepinsky (East Asian Languages and Cultures), Leon E. Pettaway, William Selke (Public and Environmental Affairs)

**Associate Professors** Steven Chermak, Ellen Dwyer (History), Stephanie Kane, Mary Lee Luskinn, Edmund McCarrell, William Oliver\* Philip Parnell (Anthropology), Marla Sandys, Kip Schlegel, Hillard Trubitt (Emeritus)

**Assistant Professor** Arvind Verma\*

**Graduate Advisor** Associate Professor Steven Chermak, Sycamore Hall 302, (812) 855-9325

**Degrees Offered** Master of Arts and Doctor of Philosophy

The department offers the opportunity for multidisciplinary graduate degrees in criminal justice that are designed for students coming from a variety of academic backgrounds. A degree in criminal justice may serve as a

stepping stone to further graduate work (in the case of those awarded the Master of Arts degree) to law school, or to administrative, research, and management careers in the criminal justice system or the private sector.

The faculty represents a diversity of approaches to criminal justice studies: anthropology, criminal justice, geography, history, law, political science, psychology, and sociology. Students may also study with faculty from other departments and schools who make up the university-wide criminal justice consortium.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** Applicants must submit the following: (1) an official undergraduate transcript; (2) a 300- to 500-word statement of academic and professional goals; (3) scores from the analytical, verbal, and quantitative sections of the GRE; (4) evidence of potential for success in graduate work, as attested by letters of recommendation from those familiar with the applicant's academic performance (two of the applicant's three letters must be from faculty members); (5) international TOEFL is required of all foreign students.

**Course Requirements** A total of 36 credit hours, 15 of which must be taken in the Department of Criminal Justice. Required are P501, P502, P594, P595 and P610 or P670.

**Thesis** Optional. Students may earn up to 6 credit hours for an M.A. thesis.

### Doctor of Philosophy Degree

**Admission Requirements** Applicants must submit the following: (1) an official undergraduate transcript; (2) a 300- to 500-word statement of academic and professional goals; (3) scores from the analytical, verbal, and quantitative sections of the GRE; (4) evidence of potential for success in graduate work, as attested by letters of recommendation from those familiar with the applicant's academic performance (two of the applicant's three letters must be from faculty members); (5) international TOEFL is required of all foreign students.

**Course Requirements** A total of 90 credit hours beyond the bachelor's degree, of which 12 credit hours are in core proseminars and another 12 credit hours in other required courses. Of hours needed for the degree, a student must complete 9 credit hours beyond the required core proseminar in each of two

areas of specialization within the curriculum and complete a minor, consisting of 6 credit hours beyond the required proseminar in a third area of specialization. The minor may be selected from outside the Department of Criminal Justice. Students are required to complete courses in each of the four substantive tracts that the program is organized: P501, P502, P610, P670. All students are required to complete P594, P595, and P596. A research skill requirement may be satisfied by completing P599 or a research skills course approved by the Director of Graduate Affairs. A dissertation for up to 30 credit hours is required.

### Foreign Language/Research Tool Requirement

One of the following: (1) reading proficiency in one of the languages from those approved by the Department of Criminal Justice or a language demonstrably useful in the student's research program; or (2) the research tool requirement may be satisfied by either 3 credits of advanced research or statistics course work. Students may obtain a list of approved tool skill courses from the department.

**Qualifying Examination** All doctoral students are expected to demonstrate basic proficiency by passing written doctoral examinations in three of the following core areas: (1) nature of crime; (2) criminal justice systems and processes; (3) law and society; (4) cross-cultural studies. For students completing an outside minor, the third examination will be in that area of study.

**Dissertation Proposal** Dissertation proposals must be submitted only after successfully completing the required qualifying Ph.D. examinations. An oral defense of the dissertation proposal is required.

**Final Examination** Oral defense of the dissertation is required.

**Ph.D. Minor in Criminal Justice** Students from other departments or schools who wish to minor in criminal justice should consult with the Director of Graduate Affairs, who will ordinarily serve as the minor advisor. The usual requirement for a minor is at least 12 graduate credit hours in criminal justice. P501 and P502 are required and the remaining 6 hours are elective credits in the department. A Declaration of Minor Form must be submitted to the Director of Graduate Affairs.

## Courses

Courses in the 300s and 400s listed here are open to graduate students with the prior approval of the Director of Graduate Affairs in criminal justice and the course instructor.

**P411 Criminal Justice Management (3 cr.)**

**P482 The Family and Formal Control Systems (3 cr.)**

**P501 Proseminar: Criminal Justice I (3 cr.)** A proseminar to provide an intensive introduction to the basic areas of criminal justice.

**P502 Proseminar: Criminal Justice II (3 cr.)** Theories of crime and delinquency.

**P512 Corrections (3 cr.)** Reviews historical and philosophical bases of correctional system and examines components of system (community corrections, jails, and prisons). Focuses on the structure and functions of the corrections system with particular attention to the role of broader social forces on the development and operation of the system.

**P515 Police in Society (3 cr.)** Covers the bases and impacts of recent changes in U.S. policing, particularly with respect to community-oriented policing. Changes are analyzed in terms of the organizational and political contexts in which they occur as well as from historical and cross-cultural perspectives.

**P517 Juvenile Justice (3 cr.)** Examines historical development of juvenile justice system, tradition of reform, underlying ideologies, and current debates.

**P519 Probation and Parole (3 cr.)** Primary emphasis on the development and evaluation of probation, parole, and other systems of community corrections. Examines the theoretical underpinnings of community programs for offender, and analysis of recent research will be undertaken. The policy implications for this area will also be studied.

**P520 Public Control of Deviant Behavior (3 cr.)** Critical review of theoretical and empirical literature on selected topics in deviant behavior, including prostitution, child abuse, psychopathy, homosexuality, drug abuse, alcohol abuse, and alcoholism.

**P594 Introduction to Research Methods (3 cr.)** P: one semester of graduate-level statistics (S540 or equivalent). Research methodology in criminal justice. Research design, scientific methods, quantitative applications, ethical questions, and the role of the criminal justice researcher.

**P595 Data Analysis in Criminal Justice I (3 cr.)** Data analysis applied to criminal justice data, including measurement, tables, graphs, probability, nonparametric statistics, matrix algebra, correlation and regression, and tests of significance.

**P596 Data Analysis in Criminal Justice II (3 cr.)** P: CJUS P595. Focus on the general linear model and multivariate statistical techniques such as logit, probit, and structural equation modelling.

**P599 Research Practicum (1-6 cr.)** Required course for Ph.D. students. Designed to provide



guided experience in conducting research independently. The topic and scope of the student's effort must be approved in advance by the professor.

**P600 Theories of Crime Causation (3 cr.)** Examination of theories of crime and criminal behavior from three major perspectives: biology, psychology, and sociology. The goal of the seminar is twofold: (1) to understand the strengths and weaknesses of existing theories from these diverse perspectives, and (2) to suggest that theoretical explanations of crime must of necessity be multidimensional in order to encompass the complexity of the problem.

**P602 Courts and Criminal Justice (3 cr.)** Addresses the nature and operation of courts with respect to criminal cases: structure and administration of courts; recruitment and selection of major participants; and specific decisions in the processing of criminal cases, including the decision to charge, pretrial release, trials and plea bargains, and criminal appeals.

**P610 Law and Society (3 cr.)** Study of the interaction between social forces and legal processes, focusing on the question of what shapes the law. Subareas to be examined include the courts, sentencing, police, crime, deviance, and community-based justice. Emphasis on the links between crime-related behavior as defined by the law, its social and cultural environments, and the individual.

**P619 Crime and Public Policy (3 cr.)** Examines processes by which societies define crime and develop responses to crime. Particular attention is given to case studies of how particular policies were developed and implemented, and what effects policies produced.

**P622 Criminal Careers (3 cr.)** A small number of career criminals commit the majority of serious crimes. Seminar explores the major personal and typological dimensions of such criminals by exposing the student to the commonalities among diverse forms of criminal activity and the implications for crime theory development and crime control policies.

**P623 Violent Behavior (3 cr.)** Critical analysis of current theory and research on violent behavior utilizing a multidisciplinary framework. Topics include concepts and methods in the study of violence; prediction of violence; family and sexual violence; institutional violence; drugs and violence; and prevention of violent behavior.

**P625 Correlates of Crime (3 cr.)** Examines the incidence and correlates (individual, community, and cultural) of crime and the varying methods of measuring crime. Implications for criminological theory and research are addressed.

**P627 White-Collar Crime (3 cr.)** Examines the data and research related to white-collar crime in an effort to understand issues of causation and social control of this particular form of crime. Places white-collar crime within the context of general theories of crime, and compares and contrasts the various legal mechanisms (civil administrative and criminal) available to control it.

**P629 Victimization (3 cr.)** Covers current theory, research and measurement issues pertaining to the nature, extent, causes, and effects of criminal victimization; evaluations of programs for crime victims; and political and ideological differences among varying views of victim rights.

**P633 Dispute Settlement (3 cr.)** Examines relationships between social and cultural contexts in the fields of crime and law. Focuses on factors that influence the development and use of dispute settlement processes, such as mediation and negotiation, and the evolution, development, and disintegration of legal and criminal justice systems.

**P634 Sentencing Theory and Practice (3 cr.)** Examines the theoretical and practical issues relating to the sentencing of criminals. In particular, focuses on the aims of punishment and the construction of sentencing models and alternatives designed to achieve these aims.

**P637 Community, Crime, and Criminal Justice (3 cr.)** Examines the role of community structure and function in the distribution of crime and the formal and informal response to crime.

**P639 History of Criminal Justice in the U.S. (3 cr.)** Examination of the development of the American criminal justice system, with particular attention to courts, prisons, and the police. Examines how definitions of deviance and criminality have changed over time and the ways class, gender, and race have shaped law and justice.

**P670 Cross-Cultural Studies (3 cr.)** Examines significance of cross-cultural research to criminology/criminal justice, research practices and problems, with emphasis on analysis of field experiences and findings.

**P671 Comparative Justice Systems (3 cr.)** Engages students in comparative issues and research to reveal political, historical, and cultural factors that have influenced criminal justice and law in the United States. Develops student abilities to conceptualize crime and law without using official legal concepts but for purposes of comparative social scientific research.

**P672 Ideas About Justice (3 cr.)** Explores a school or related schools of thought and practice about what "justice" means and requires. Special topics for the course may vary, focusing, for instance, on feminist justice,

"just deserts" theory, restorative justice, retributive justice, or utilitarian justice.

**P675 Women and Crime (3 cr.)** Provides a flexible forum for the discussion of a previously neglected topic in criminology/criminal justice: women and crime. Includes discussion and debate on the nature and extent of women's criminality, processing of women through each step of the criminal justice system, and women working in criminal justice.

**P680 Seminar: Issues in Criminal Justice (3 cr.)** Selected topics in criminal justice that will vary from semester to semester. May be repeated for credit.

**P682 Seminar on Law Enforcement and Minorities (3 cr.)** Selected topics dealing with problems involving minorities and criminal justice system operations.

**P694 Research in Criminal Justice (cr. arr.)\* P:** P594.

**P751 Topical Research Seminar (3-12 cr.)** Students are expected to demonstrate their skills in research design and data analysis on a topic agreed upon with the instructor. The instructor may encourage team research for appropriate designs and topics. Students are encouraged to develop topics related to dissertation research.

**P794 M.A. Thesis (6 cr.)\* P:** P594.

**P851 Reading in Criminal Justice (1-6 cr.)\*** Individualized readings on topics not covered in regular course offerings.

**P855 Research in Criminal Justice (1-6 cr.)\*** P: graduate standing in criminal justice or consent of instructor. The student is expected to make substantial progress toward identification of an eventual dissertation project.

**P859 Ph.D. Thesis (cr. arr., 30 cr. max.)\***

## Cross-Listed Courses<sup>1</sup>

**Afro-American Studies**

**A669 Independent Project in Black Social Issues (3 cr.)**

**Anthropology**

**B370 Human Variation (3 cr.)**

**B600 Seminar in Bioanthropology (3 cr.)**

**E375 Mental Illness in Cross-Cultural Perspectives (3 cr.)**

**E380 Urban Anthropology (3 cr.)**

**E404 Field Methods in Ethnography (3 cr.)**

**E405 Principles of Social Organization (3 cr.)**

**E430 Kinship Organization (3 cr.)**

**E445 Medical Anthropology (3 cr.)**

**E451 Myth and Legend: Cultural Meanings and Interpretations (3 cr.)**

**E457 Ethnic Identity (3 cr.)**

**E480 Theory of Culture Change (3 cr.)**

**E500 Proseminar in Cultural and Social Anthropology (3 cr.)**

**E505 Social Organization and Process (3 cr.)**

**E600 Seminar in Cultural and Social Anthropology (3 cr.)**

**E606 Research Methods in Cultural Anthropology (3 cr.)**

**E620 Seminar on Cultural Ecology (3 cr.)**

**E681 Seminar in Urban Anthropology (3 cr.)**

**H505 History of Social Anthropology (3 cr.)**

**L500 Proseminar in Language and Culture (3 cr.)**

Note: There are also a number of regional courses that might fit specific Ph.D. candidates, e.g., E510, Problems in African Ethnography and Ethnology (3 cr.).

**Business**

**W516 Organizational Development and Change (3 cr.)**

**W601 Theoretical and Historical Foundations of Organization Theory (3 cr.)**

**W602 Seminar in Organizational Theory (3 cr.)**

**W603 Special Topics Seminar in Organizational Theory (3 cr.)**

**Z504 Organizational Behavior and Theory (3 cr.)**

**Z513 Administration of Personnel Systems (3 cr.)**

**Z514 Seminar in Industrial Relations (3 cr.)**

**Z517 Legal Issues in Human Resources (3 cr.)**

**Education**

**H551-H552 Comparative Education I-II (3-3 cr.)**

**H560 Education and Change in Societies (3 cr.)**

**Gender Studies**

**G601 Survey of Contemporary Research in Gender Studies: The Social and Behavioral Sciences (3 cr.)**

**Geography**

**G415 Advanced Urban Geography (3 cr.)**

**G440 Spatial Behavior (3 cr.)**

**G515 Mathematical Models in Geography (3 cr.)**

**G614 Seminar in Settlement and Urban Geography (3 cr.)**

**History**

**A325-A326 American Constitutional History I-II (3-3 cr.)**

<sup>1</sup> A student may choose from the following courses or other approved cross-listed courses to complete M.A. requirements.



A347 American Urban History (3 cr.)  
Journalism  
J500 Introduction to Mass Media Research (3 cr.)  
J514 International Communication (3 cr.)  
J551 Seminar: Reporting the Law (3 cr.)  
J572 The Press and the Constitution (3 cr.)  
J614 Communication and National Development (3 cr.)  
J651 Qualitative Methods in Mass Communication Research (3 cr.)  
J672 Topics in Communication Law (3 cr.)  
J673 Government and Mass Media (3 cr.)  
Law  
B601-B602 Criminal Process I-II (3-3 cr.)  
B608 Family Law (3 cr.)  
B659 American Legal History (3 cr.)  
B701 Juvenile Justice System (3 cr.)  
Linguistics  
L619 Language and Society (3 cr.)  
Philosophy  
P526 Nineteenth-Century Philosophy (3 cr.)  
P540 Contemporary Ethical Theories (3 cr.)  
P543 Contemporary Social and Political Philosophy (3 cr.)  
P545 Legal Philosophy (3 cr.)  
Political Science  
Y367 International Law (3 cr.)  
Y388 Marxist Theory (3 cr.)  
Y565 Public Administration, Law, and Policy: Approaches and Issues (3 cr.)  
Y569 International Relations: Approaches and Issues (3 cr.)  
Y575-Y576 Political Data Analysis I-II (3-3 cr.)  
Y580 Research Methods in Political Science (3 cr.)  
Y663 Political and Administrative Development (3 cr.)  
Y665 Public Law and Policy (3 cr.)  
Y673 Empirical Theory and Methodology (3 cr.)  
Y685 Readings in Public Administration, Law, and Policy (1-4 cr.)  
Y763 Political and Administrative Development (3 cr.)  
Y765 Public Law and Policy (3 cr.)  
Y771 Public Administration (3 cr.)  
Psychology  
P400 Psychological Measurement and Scaling (2 cr.)  
P434 Community Psychology (3 cr.)  
P460 Women: A Psychological Perspective (3 cr.)  
P502 Developmental Psychology (3 cr.)  
P511 Social Psychology (3 cr.)  
P540 Principles of Psychological Assessment and Prediction (3 cr.)  
P555 Computer Application in Psychological Research (3 cr.)  
P615 Developmental Psychology I (3 cr.)  
P619 Seminar in Personality (3 cr.)  
P631 Intervention and Evaluation (3 cr.)  
P632 Introduction to Clinical Interventions (3 cr.)  
P634 Advanced Survey of Community Psychology (3 cr.)  
P647 Decision Making under Uncertainty (3 cr.)  
P648 Choice Behavior (3 cr.)  
P721 Conflict, Aggression, and Altruism (3 cr.)  
P734 Community Intervention (3 cr.)  
Religious Studies  
R661 Religion and Social Criticism (3 cr.)  
R673 Religion and Violence (3 cr.)  
R674 Ethics and Ethos (3 cr.)  
Sociology  
S324 Sociological Aspects of Mental Illness (3 cr.)  
S325 Criminology (3 cr.)  
S338 Sociology of Gender Roles (3 cr.)  
S420 Topics in Deviance (3 cr.)  
S427 Social Conflict (3 cr.)  
S431 Topics in Social Psychology (3 cr.)  
S432 Small Group Processes (3 cr.)  
S438 Childhood Socialization (3 cr.)  
S441 Topics in Social Theory (3 cr.)  
S450 Topics in Methods and Measurement (3 cr.)  
S510 Introduction to Social Organization (3 cr.)  
S530 Introduction to Social Psychology (3 cr.)  
S540 Sociological Theory (3 cr.)  
S558 Advanced Research Techniques (3 cr.)  
S610 Urban Sociology (3 cr.)  
S612 Political Sociology (3 cr.)  
S613 Complex Organizations (3 cr.)  
S616 Sociology of Family Systems (3 cr.)  
S617 Social Stratification (3 cr.)  
S620 Deviance and Social Control (3 cr.)  
S631 Intergroup Relations (3 cr.)  
S632 Socialization (3 cr.)  
S633 Social Interaction: Interpersonal Relations (3 cr.)  
S640 Advanced Topics in Sociological Theory (3 cr.)  
S647 Social Change (3 cr.)  
S649 Theory Construction (3 cr.)  
S657 Community Power, Politics, and Decision Making (3 cr.)  
S658 Selected Problems in Cross-Cultural Sociological Research (3 cr.)  
School of Public and Environmental Affairs  
V502 Public Management (3 cr.)  
V504 Public Organizations (3 cr.)  
V508 Topics in Quantitative Analysis (3 cr.)  
V512 Public Policy Process (1-3 cr.)  
V516 Public Management Information Systems (3 cr.)  
V517 Public Management Economics (3 cr.)  
V540 Law and Public Affairs (3 cr.)  
V550 Topics in Public Affairs (1-3 cr.)  
V562 Public Program Evaluation (3 cr.)  
V570 Public Sector Labor Relations (3 cr.)  
V576 Comparative Approaches to Development (3 cr.)  
V593 Analytic Methods for Planning and Policy Analysis (3 cr.)  
V595 Managerial Decision Making (3 cr.)  
V665 Seminar in Policy and Administration (3 cr.)  
V670 Topics in Public Sector Labor Relations (3 cr.)  
Michael Curtin (Communication and Culture), Jonathan Elmer (English), Mary Favret (English), Thomas Foster\* (English), Gloria Gibson (Afro-American Studies), Margaret Gray (French and Italian), Joan Hawkins\* (Communication and Culture), Stephanie Kane (Criminal Justice), Barbara G. Klinger (Communication and Culture), John Lucaites (Communication and Culture), Andrew Miller (English), Carolyn Mitchell (English), Richard Nasif\* (English), David Pace (History), Philip Parnell (Criminal Justice), Michael Robinson (East Asian Languages and Cultures), Katrin Sieg\* (Germanic Studies), Beverly J. Stoelje (Folklore and Communication and Culture), Helen Sword\* (English), Jeffrey Wasserstrom (History), Timothy J. Wiles (English), Yingjin Zhang (East Asian Languages and Cultures)  
Assistant Professors Purnima Bose\* (English), Maria Bucur-Deckard\* (History), Nicola Evans (Communication and Culture), Roopali Mukherjee\* (Communication and Culture), Radhika Parameswaran\* (Journalism), William Rasch (Germanic Studies), Janet Sorensen\* (English), Sue Tuohy\* (Folklore)  
Academic Advisor Thomas Foster, 419 Ballantine Hall, (812) 855-5546

## Ph.D. Minor in Cultural Studies

Cultural Studies is a multidisciplinary program primarily applicable to the humanities and social sciences. Drawing upon recent developments in cultural, social, and literary theory, this program emphasizes the investigation of cultural production and the social construction of values, ideas, and belief systems. Focusing on both contemporary and historical phenomena, courses in this area pay particular attention to the relationship between cultural forms and power relations in society. Issues of class, race, and gender receive prominent critical attention, as do conventional divisions between "high culture" and more "popular" forms of expression. Students in this program are encouraged to fashion a course of study which meets their particular interests and needs. Cultural Studies is especially useful for those seeking to complement studies in an area of disciplinary specialization with a more interdisciplinary minor.

**Course Requirements** Four courses for a minimum of 13 hours of credit in courses approved for the Cultural Studies Program, including C601 and either C701 or C790. The remaining hours are mostly satisfied by taking classes which are cross-listed with the home department of the designated instructor. Students must officially declare the minor during the early phase of their Ph.D. studies by consulting with the director of the Cultural Studies program.

## Cultural Studies

College of Arts and Sciences  
Bloomington

Director Thomas Foster

### Graduate Faculty

Distinguished Professor Richard Bauman (Folklore and Communication and Culture)  
Chancellors' Professor James Naremore (English, Communication and Culture)  
Professors John Bodnar (History), Patrick Brantlinger (English), Gilbert D. Chaitin (Comparative Literature, French and Italian), Donna Eder (Sociology), Thomas F. Gieryn (Sociology), Paula Girshick (Anthropology), Jeffrey Gould (History), Carol Greenhouse (Anthropology and Communication and Culture), Robert Ivie (Communication and Culture), Oscar S. Kenshur (Comparative Literature), Christine Ogan (Journalism), Robert Orsi (Religious Studies), David P. Thelen (History), Stephen Watt (English), Marc A. Weiner (Germanic Studies), Richard Wilk (Anthropology), David R. Zaret (Sociology)  
Associate Professors Christopher Anderson (Communication and Culture), Joëlle Bahloul (Anthropology and Jewish Studies), Linda Charnes (English), Eva Cherniavsky (English),

**Examinations** Satisfactory performance on the qualifying examinations in the student's major department required.

## Courses

**C601 Introduction to Cultural Studies (4 cr.)** Survey of main issues, theories, and methods in cultural studies. Topics may include communications and mass culture; gender, race, and the social construction of identity; historiographic and ethnographic approaches to modern cultures and societies.

**C701 Special Topics in Cultural Studies (3-4 cr.)** P: C601 or consent of instructor. Advanced exploration of a specific issue in cultural studies (for example, "avant-garde" movements in politics and the arts in relation to social and cultural modernity).

**C790 Independent Readings in Cultural Studies (1-6 cr.)** P: consent of instructor. Open only to students completing minors in cultural studies.

## Dentistry

**School of Dentistry  
Indianapolis**

**Dean** Professor Lawrence Goldblatt

**Departmental e-mail:** blerner@iustd.iupui.edu

## Graduate Faculty

**Distinguished Professor** George Stookey

**Professors** David Bixler (Emeritus) John Chaves, Arden Christen, James Hartsfield, Michael Kowolik, Marilyn Lantz, Donald LeBlanc, James McDonald, Chris Miller, B. Keith Moore, Byron Olson, Yoshiaki Oshida, W. Eugene Roberts Jr., S. Miles Standish (Emeritus), Charles Tomich, Domenick T. Zero

**Associate Professors** Mostafa Analoui,\* Joseph Bidwell, Lawrence Carretto, Richard Gregory, Thomas Katona,\* M. Margaret Vickerman

**Assistant Professors** Eric Everett,\* Margherita Fontana,\* Dominique Gallir\* (Visiting), Carlos Gonzalez-Cabezas,\* L. Jack Windsor\*

**Adjunct Professors** Janet Hock (Affiliate Graduate Faculty Status)

**Adjunct Assistant Professors** Rachelle Galvin (Affiliate)

**Senior Scientist** Ann Dumipace

**Associate Scientist** Lech Switalski

**Associate Dean for Research and Graduate Education** Chris Miller, School of Dentistry 105, (317) 274-5349

**Director of Ph.D. Program** Richard Gregory, OH 123, (317) 274-5349

**Degrees Offered** Master of Science and Doctor of Philosophy. In addition, the School of Dentistry offers the Master of Science in Dentistry; for details see the School of Dentistry Bulletin.

## Special School Requirements

(See also General University Graduate School requirements.)

The M.S. and Ph.D. programs are designed principally for students who expect to enter dental education and research upon completion of their programs. The M.S.D. program is intended for students interested primarily in the specialty disciplines of dentistry.

**Admission Requirements** (1) Degree in dentistry from a recognized school of dentistry, or bachelor's degree with appropriate concentration in science (for applicants, other than dentists, who wish to pursue advanced degrees in dental science); (2) overall B (3.0) average; (3) appropriate level of achievement in course work in the major area of concentration; and (4) evidence of potential for success in advanced graduate work, as attested by letters of recommendation from major professors or others familiar with the applicant's academic performance or professional background. A personal interview may be required in some instances.

**Grades** Students must maintain an academic average of at least 3.0 (B) on a 4.0 scale.

## Master of Science Degree

Graduate work in the School of Dentistry leading to the M.S. or M.S.D. degree includes advanced laboratory, clinical, lecture, library, and seminar courses in the following major fields: orthodontics, dental diagnostic sciences, dental materials, and preventive dentistry. (See School of Dentistry Bulletin for other M.S.D. programs offered in the advanced specialty disciplines in dentistry.)

**Course Requirements** A minimum of 30 credit hours of approved courses appropriate to one of the major disciplines given above, including 6 credit hours in an approved minor subject and 6 credit hours of research. Consult the School of Dentistry Bulletin and individual program directors for specific details on curricula. A maximum of 6 credit hours may be allowed for clinical courses.

**Thesis** Students must conduct a research project and prepare a thesis.

**Final Examinations** Comprehensive oral and written examination taken any time after the

first semester. A "defense of thesis" examination is required upon submission of the thesis to the student's graduate committee.

## Doctor of Philosophy Degree in Dental Science

**Course Requirements** A minimum of 90 credit hours beyond the bachelor's and/or dental degree with a total of 33 credit hours in the major subject area (including the core curriculum in preventive dentistry), at least 15 credit hours in an approved minor subject, and at least 20 credit hours in research leading to the dissertation. The remaining credit hours will be taken in appropriate elective courses.

**Minor** Ordinarily, 15 credit hours in any one of the advanced basic science courses (anatomy, biochemistry, microbiology, pathology, pharmacology, physiology, life science) or their equivalents, as approved by the departmental chairperson. A second minor (15 credit hours) may be obtained in any of the advanced dental subjects or distributed among supportive electives.

**Research-Skill Requirement** The advisory committee will determine the relevance of various laboratory and technical skills to the student's Ph.D. program and will recommend courses selected from the following: statistics, computer science, polarized light microscopy and microangiography, scanning electron microscopy, and cell culture, biochemical, or microbiological techniques. Other skills may be included with the consent of the advisory committee.

**Qualifying Examination** Preliminary oral and written qualifying examinations to be taken in the major and minor subjects at any time the student is prepared.

**Final Examination** Oral defense of dissertation.

## Courses

**G900 Advanced Oral Histology and Embryology (2 cr.)**

**G903 Histologic Technique (1 cr.)**

**G905 Physiology and Pathology of Bone (1-3 cr.)**

**G906 Tumor Clinic (0.5 cr.; 1 cr. max.)**

**G907 Clinical Oral Pathology Conference (0.5 cr.; 1 cr. max.)**

**G908 Advanced Radiographic Interpretation (2 cr.)**

**G911 Seminar (1 cr.)**

**G912 Theory of Dental Metallurgy (3 cr.)**

**G912 Properties and Test Methods: Dental Materials (2-3 cr.)**

**G913 Clinical Applications of Dental Materials (2-3 cr.)**

**G917 Maxillofacial Prosthodontics Theory (1-6 cr.)**  
**G918 Research: Dental Diagnostic Sciences (cr. arr.)\***

**G920 Research: Oral Pathology (cr. arr.)\***

**G921 Research: Dental Materials (cr. arr.)\***

**G924 Research: Dental Diagnostic Sciences (cr. arr.)\***

**G927 Research: Orthodontics (cr. arr.)\***

**G930 Research: Preventive Dentistry (cr. arr.)\***

**G935 Dental Pediatrics (1-2 cr.)**

**G946 Advanced Clinical Radiography (1-4 cr.)**

**G947 Cephalometrics (1-4 cr.)**

**G948 Advanced Radiology (2 cr.)**

**G955 Research Communications (2 cr.)**

**G958 Biomechanics (1-4 cr.)**

**G959 Oral Microbiology (3 cr.)**

**G960 Advanced Orthodontic Clinic (1-6 cr.)**

**G963 Advanced Orthodontic Techniques (2 cr.)**

**G964 Dento-Facial Analysis (2 cr.)**

**G965 Histophysiology and Pathology of the Periodontium (4 cr.)**

**G968 Advanced Clinical Dental Diagnostic Sciences (1-6 cr.)**

**G969 Advanced Didactic Dental Diagnostic Sciences (2 cr.)**

**G971 Intermediary Metabolism (3 cr.)**

**G972 Proteins and Nucleic Acids (2 cr.)**

**G973 Vitamins, Mineral Metabolism, and Hormones (2 cr.)**

**G974 Advanced Nutrition (2 cr.)**

**G975 Basic Radiologic Physics (2 cr.)**

**G976 Advanced Oral Pathology I (1-2 cr.)**

**G977 Advanced Oral Pathology II (2 cr.)**

**G978 Fundamentals of Radiation Biology (2 cr.)**

**G981 Principles of Restorative Dentistry<sup>1</sup> (1-4 cr.)**

**G982 Clinical Research Methods (1-3 cr.)**

**G983 Dental Problems of Special Population Groups (1-3 cr.)**

**G985 Fluoride Metabolism (2 cr.)**

**G987 Principles of Applied Oral Medicine<sup>1</sup> (1-4 cr.)**

**G988 Principles of Periodontics<sup>1</sup> (2 cr.)**

**G989 Principles of Pediatric Dentistry<sup>1</sup> (1-4 cr.)**

**G991 Advanced Anatomy and Physiology of Head and Neck (1-4 cr.)**

**G994 Applications of Genetic Principles to Problems in Dentistry (2 cr.)**

<sup>1</sup>For students who do not hold degrees in dentistry.

- G995 Biostatistics as Applied to Public Health Problems (1-4 cr.)
- G996 Epidemiology (1-3 cr.)
- G999 Public Health Practice (1-6 cr.)
- R902 Developmental Biology of the Human Face and Head (2 cr.)
- R903 Roentgenographic Interpretation of the Face and Skull (2 cr.)
- R908 Speech Pathology-Speech Science (1-6 cr.)
- R909 Advanced Preventive Dentistry I (2-3 cr.)
- R910 Advanced Preventive Dentistry II (2-3 cr.) P: R909
- R911 Advanced Preventive Dentistry III (1-2 cr.) P: R909, R910
- R912 Clinical Preventive Dentistry I (2 cr.)
- R913 Clinical Preventive Dentistry II (1 cr.) P: R912
- R924 Retention and Post-Retention Analysis (2 cr.)
- R926 Advanced Concepts in Biomedical Sciences (1 cr.)
- R927 Interpersonal Processes and Persuasive Motivational Strategies in Dentistry (1 cr.)
- R932 Speech and Craniofacial Anomalies (1 cr.)
- R934 Surgical Orthodontics Seminar I (1 cr.)
- R935 Surgical Orthodontics Seminar II (1 cr.)
- R937-R938 Special Pathology of Neoplasms I-II (2-2 cr.)
- R944-R945 Graduate Craniofacial Growth and Development I-II (2-3 cr. each)
- R949 Advanced Head and Neck Anatomy (3 cr.)
- R953 Biotechniques Methods and Instrumentation in Dentistry (3 cr.) This is an introductory course for dental graduate students at IUSD getting ready for M.S. and Ph.D. research. Basic concepts in imaging will be discussed. Other topics include bioelectricity, biomechanics and biochemical engineering.
- R955 Graduate Oral Biology I (2.5 cr.) Basic survey of oral biology including cell biology; composition of the oral hard tissues; role of saliva in health and disease; systemic and oral microbial diseases important in dentistry; immunology; prevention of oral diseases; nutrition; and infection control.
- R956 Current Topics in Oral Biology (4 cr.) P: B500 and G865 or equivalents. Purpose is to familiarize students with current areas of research in oral biology through a combination of lectures and literature discussions on topics covered in review articles and original research papers appearing in journals devoted to various aspects of oral biology.

## East Asian Languages and Cultures

College of Arts and Sciences  
Bloomington

Chairperson Professor Richard Rubinger

Departmental e-mail: eal@indiana.edu

Departmental URL:  
http://www.indiana.edu/~eal

### Graduate Faculty

Professors Y. J. Chih (Emeritus), Jurgis  
Elisonas (History), Eugene Eoyang  
(Comparative Literature), Yoshio Iwamoto  
(Emeritus, Comparative Literature), Roger  
Janelli (Folklore), Sumie Jones (Comparative  
Literature), Gregory Kasza, Paul Kuznets  
(Emeritus, Economics), Wu-chi Liu (Emeritus),  
Irving Lo (Emeritus, Comparative Literature),  
Richard Rubinger, Lynn Struve (History),  
Natsuko Tsujimura, George M. Wilson  
(History), Margaret Yan, Kenneth Yasuda  
(Emeritus)

Associate Professors Stephen Bokenkamp  
(Religious Studies), Robert Company  
(Religious Studies), Laurel Cornell (Sociology),  
Robert Eno,\* Charles Greer (Geography), Hyo-  
Sang Lee,\* Jennifer Liu,\* John McKee  
(Religious Studies), Jan Nattier (Religious  
Studies), Susan Nelson (Fine Arts), Jean  
Robinson (Political Science), Michael  
Robinson, Edith Sarra,\* Jeffrey Wasserstrom,  
Yasuko Ito Watt,\* Yingjin Zhang

Assistant Professor Andra Alvis\*

Adjunct Assistant Professor Sue Tuohy\*

Graduate Advisor Associate Professor  
Yingjin Zhang, Goodbody Hall 250, (812) 855-  
1992

Degrees Offered Master of Arts in Chinese  
or Japanese, Master of Arts in East Asian  
Studies, Doctor of Philosophy in Chinese or  
Japanese

### Special Departmental Requirements

(See also general University Graduate School  
requirements.)

Admission Requirements Graduate Record  
Examination General Test is required.  
International students admitted into  
departmental programs must demonstrate a  
high level of proficiency in English or take  
additional courses to remove deficiencies.

Grade Students must maintain at least a 3.0  
(B) grade point average.

## Master of Arts Degree in Chinese or Japanese

Admission Requirement An undergraduate  
major in Chinese or Japanese, or its equivalent.

Course Requirements A total of 30 credit  
hours, including thesis hours, in approved  
courses. At least 20 of these credit hours, not  
counting thesis hours, must be from among  
the courses listed under "Chinese" or  
"Japanese" (depending on the student's major)  
on the list that follows, including at least three  
at the 500 level or above, of which one must be  
C511 or J511. Please note that fourth-year  
language courses do not count toward the  
required 500-level courses.

Language Requirements In addition to the  
student's major language (completion of  
fourth-year level), reading proficiency in  
another East Asian language or in French,  
German, or Russian. Language courses above  
the third-year level of the major language and  
above the second-year level of other East Asian  
languages may be counted toward the degree.

Thesis A thesis is required, demonstrating  
the student's skills in the use of primary  
sources and scholarly research. Credit hours  
optional, may be taken for up to 4 credit hours.

## Master of Arts Degree in East Asian Studies

Admission Requirements An under-  
graduate major in East Asian studies or a  
strong major in any field in the humanities or  
in the social sciences with general knowledge  
of the culture of East Asia. Entering students  
who have not had the first two years of an East  
Asian language must remove this deficiency  
within the first two years of graduate study.

Course Requirements A total of 30 credit  
hours, including thesis hours, in courses  
related to East Asia. At least 20 of these credit  
hours must be from among the courses listed  
under "Culture and Area Courses" on the list  
that follows. At least three courses must be at  
the 500 level or above. Please note that fourth-  
year language courses do not count toward the  
required 500-level courses. Please note that  
fourth-year language courses do not count  
toward the required 500-level courses.

Language Requirement Satisfactory  
completion of three years of Chinese, Japanese,  
or Korean, or the equivalent, as determined by  
examination. Language courses at the 300 level  
and above may be counted toward the degree.

Thesis A thesis that demonstrates the  
student's skills in scholarly research is  
required. Credit hours optional; may be taken  
for up to 4 credit hours.

## Dual Degree: Master of Arts in East Asian Studies and Master of Business Administration

A joint M.A. in East Asian Studies and M.B.A.  
is available. Contact the director of graduate  
studies for further information.

## Doctor of Philosophy Degree in Chinese or Japanese

Admission Requirement An M.A. in  
Chinese or Japanese or its equivalent.

Course Requirements A minimum of 30  
credit hours, beyond those taken for the M.A.,  
in departmental courses, as follows: five  
courses (15 credit hours) at the 400 and 500  
levels, of which a minimum of two courses  
must be at the 500 level; one course (3 credit  
hours) in research methods/bibliography; and  
four seminar courses (16 credit hours),  
including the seminar in East Asian Studies  
scholarship. Please note that fourth-year  
language courses do not count toward the five  
required 400/500-level courses. A dissertation  
is required.

Minor A minimum of 12 to 15 credit hours of  
course work in an outside field, such as  
comparative literature, fine arts, folklore,  
history, political science, religious studies, or  
other approved departments. Examination in  
the minor if prescribed by the department or  
program concerned.

Language Requirements Prior to the  
qualifying examination, students must  
demonstrate proficiency, both oral and  
reading, in the student's major language, as  
well as reading proficiency in another East  
Asian language, and in French, German, or  
Russian.

Qualifying Examinations Upon completion  
of course work, two four-hour written  
examinations in subject fields: (one in the  
major field of specialization, one in a historical  
period of the major cultural area), and an oral  
exam.

Dissertation On an approved subject in the  
major language or culture. Up to 15 credit  
hours may be taken for dissertation.

Final Examination Upon completion of the  
dissertation, a final oral examination on the  
dissertation and major area.

## Ph.D. Minor in Chinese or Japanese

Course Requirements Proficiency in the  
student's major language (completion of the  
third-year level) and a minimum of 12 to 15  
credit hours, or at least four courses, in the  
department in the student's major language.  
Two of these courses must be at the 500 level

or above. Courses counted toward fulfillment of the language proficiency requirement may not also be counted toward the minor.

### Ph.D. Minor in East Asian Studies

**Course Requirements** A minimum of four culture courses in the department in two different fields outside the student's major discipline, at least two of which must be at the 500 level or above, in addition to proficiency in either Chinese, Japanese, or Korean (completion of the third-year level).

### Courses

#### CHINESE

##### Language and Linguistics Courses

- C101-C102 Elementary Chinese I-II (2/4-2/4 cr.)<sup>1</sup>
- C123 Intensive Elementary Chinese (10 cr.)
- C201-C202 Second-Year Chinese I-II (2/4-2/4 cr.)<sup>1</sup>
- C223 Intensive Second-Year Chinese (10 cr.)
- C301-C302 Third Year Chinese I-II (3-3 cr.)
- C323 Intensive Third-Year Chinese (10 cr.)<sup>2</sup>
- C411-C412 Cantonese I-II (3-3 cr.)
- C421 Introduction to Chinese Linguistics (3 cr.)
- C423 Intensive Fourth-Year Chinese (10 cr.)<sup>2</sup>
- C431 Readings in Modern Chinese Literature (3 cr.)
- C451-C452 Advanced Classical Chinese I-II (3-3 cr.)
- C501-C502 Fourth-Year Chinese I-II (3-3 cr.) P: a grade of C or higher in C302 or equivalent proficiency. Emphasis on advanced reading skills.

- C506-C507 Literary Chinese I-II (3-3 cr.)<sup>\*</sup>
- C525 Teaching Chinese as a Foreign/Second Language (3 cr.) Designed for graduate and advanced undergraduate students who have an interest in acquiring knowledge, skills, and experience in teaching Chinese as a foreign language. Taught in a seminar-practicum format; the course examines the contemporary paradigms of foreign language instruction, identifies critical issues in language pedagogy, and explores various techniques of teaching the four language skills (speaking, listening, reading, and writing). Active participation in the class is mandatory.

##### Literature Courses: Genres and Periods

- C521-C522 Readings in Chinese Literature I-II (3-3 cr.) Readings and discussions of works in Chinese literature of different genres: poetry, prose, and drama.
- C550 Chinese Writing and Rhetoric (3 cr.) P: grade of C or better in C402 or consent of the instructor. Practice in reading, writing, and speaking through analysis of modern prose and literary texts. Examination of how Chinese

frame discourse, so students may develop their ability to present ideas with precise diction, in appropriate registers, in extended discourse.

- C558-C559 Readings in Chinese Literary Criticism I-II (3-3 cr.)
- C561-C562 Readings in Chinese Social and Political Texts I-II (3-3 cr.)<sup>3</sup>
- C571-C572 Readings in Chinese Philosophical Texts I-II (3-3 cr.)
- C581-C582 Readings in Chinese Historical Texts I-II (3-3 cr.)

##### Seminars and Research Methods Courses

- C511 Basic Reference Works in Chinese Studies (3 cr.) P: C362 or consent of instructor. Instruction in reading and using basic, general reference tools for all aspects of Chinese studies.
- C601 Seminar in Chinese Linguistics (4 cr.) Research in the structure and phonology of the Chinese language and dialects.
- C651 Seminar in Traditional Chinese Literature (4 cr.)<sup>1</sup>
- C671 Seminar in Modern Chinese Literature (4 cr.)

##### Special Research<sup>1</sup>

- E496 Foreign Study (East Asian Exchange Programs) (cr. arr.)<sup>\*</sup>
- E595 Individual Readings (1-6 cr.) Repeatable with permission of graduate advisor.
- C701 M.A. Thesis (cr. arr.)<sup>\*</sup>
- C801 Ph.D. Thesis (cr. arr.)<sup>\*</sup>

#### JAPANESE

##### Language and Linguistics Courses

- J101-J102 Elementary Japanese I-II (2/4-2/4 cr.)<sup>2</sup>
- J123 Intensive Elementary Japanese (10 cr.)
- J201-J202 Second-Year Japanese I-II (2/4-2/4 cr.)<sup>2</sup>
- J223 Intensive Second-Year Japanese (10 cr.)
- J301-J302 Third-Year Japanese I-II (3-3 cr.)
- J323 Intensive Third-Year Japanese (10 cr.)<sup>3</sup>
- J421 Introduction to Japanese Linguistics (3 cr.)
- J423 Intensive Fourth-Year Japanese (10 cr.)<sup>3</sup>
- J431 Readings in Modern Japanese Literature (3 cr.)
- J441 Readings in Japanese Scholarly Materials (3 cr.)
- J461 Literary Japanese (3 cr.)

<sup>1</sup>Two (2) credits for graduate students, 4 credits for undergraduates.

<sup>2</sup>(6) hours count as departmental credit towards graduate degrees

<sup>3</sup>With consent of the graduate adviser, may be repeated twice (for a total of 12 hours of credit) when topic varies.

- J501-J502 Fourth-Year Japanese I-II (3-3 cr.) P: a grade of C or better in J302 or equivalent proficiency. Emphasis on advanced reading skills.
- J525 Teaching Japanese as a Foreign/Second Language (3 cr.) Designed for graduate and advanced undergraduate students who have an interest in acquiring knowledge, skills, and experience in teaching Japanese as a foreign language. Taught in a seminar-practicum format; the course examines the contemporary paradigms of foreign language instruction, identifies critical issues in language pedagogy, and explores various techniques of teaching the four language skills (speaking, listening, reading, and writing). Active participation in the class is mandatory.

- J581-J582 Modern Academic and Professional Japanese I-II (3-3 cr.)
- Literature Courses: Genres and Periods
- J521-J522 Readings in Japanese Literature I-II (3-3 cr.) Readings and discussions of works in Japanese literature of different genres: poetry, prose, and drama.
- J541-J542 Readings in Japanese Historical Texts I-II (3-3 cr.)
- J551-J552 Readings in Japanese Literary Criticism I-II (3-3 cr.)

- Seminars and Research Methods Courses
- J511 Research Methods in Japanese Studies (3 cr.) Basic reference works in Japanese and Western languages, methods and tools of research.

- J651 Seminar in Traditional Japanese Literature (4 cr.)<sup>1</sup>
- J653 Seminar in Traditional Japanese Literature (4 cr.)<sup>1</sup>

- Special Research
- E496 Foreign Study (East Asian Exchange Programs) (cr. arr.)<sup>\*</sup>
- E595 Individual Readings (1-6 cr.) Repeatable with consent of graduate advisor.
- J701 M.A. Thesis (cr. arr.)<sup>\*</sup>
- J801 Ph.D. Thesis (cr. arr.)<sup>\*</sup>

#### CULTURE AND AREA COURSES<sup>4</sup>

##### Comparative Literature

- C546 Sexuality and the Arts (4 cr.)<sup>5</sup>
- C574 Japanese-Western Studies (4 cr.)
- C575 Chinese-Western Studies I (4 cr.)
- C576 Chinese-Western Studies II (4 cr.)
- East Asian Languages and Cultures
- E394 Business and Public Policy in Japan (3 cr.)
- E471 Twentieth-Century Chinese Literature (3 cr.)

- E472 Modern Japanese Fiction (3 cr.)
- E473 History of Japanese Theatre and Drama (3 cr.)
- E505 Topics in East Asian Studies (1.5-4 cr.)
- E526 Computer Enhanced East Asian Language Learning (3 cr.) P: basic computer literacy. An examination of research and findings on the effectiveness of technology in language skill development, and an exploration of the use of computer technology in foreign language learning, to equip students with concepts and tools to improve language studies.

- E533 Studies in Chinese Cinema (3 cr.)
- Critical and historical perspectives on Chinese cinema, from the 1930s to the 1990s, including Taiwan and Hong Kong. Lectures and readings on the silent era, melodrama, musical, minority film, adaptation, the fifth generation, ideology, sexuality, urban cinema, and women's cinema.

- E554 Society and Education in Japan (3 cr.)
- Survey of social change in Japan with a focus on educational institutions, patterns of learning, educational thought, and the spread of literacy.

- E574 Early Chinese Philosophy (3 cr.)
- Origins of Chinese philosophical tradition in the classical schools of Confucianism, Taoism, Mohism, and Legalism. Explores contrasting agendas of early Chinese and Western traditions.

- E595 Individual Readings (1-6 cr.) Repeatable with consent of graduate advisor.
- E600 Seminar in East Asian Studies (4 cr.)
- Seminar on topics of a comparative or interdisciplinary nature relating to East Asia.

<sup>1</sup>With consent of the graduate adviser, may be repeated twice (for a total of 12 hours of credit) when topic varies.

<sup>2</sup>Two (2) credits for graduate students, 4 credits for undergraduates.

<sup>3</sup>Six (6) hours count as departmental credit towards graduate degrees.

<sup>4</sup>Except for thesis/research courses, no knowledge of Chinese, Japanese, or Korean is required.

<sup>5</sup>This course will count toward fulfilling departmental requirements when it deals substantially with East Asian materials.

**E602 International Briefing (1.5 cr.)** Integrated survey of political, demographic, economic, social, and environmental aspects of East Asia and Eastern and Western Europe.  
**E604 Seminar in East Asian Studies Scholarship (4 cr.)**  
**E700 M.A. Thesis (cr. arr.)\***

#### Fine Arts

**A560 Special Studies in Chinese Art (4 cr.)**

**A564 Art and Archaeology of Early China (4 cr.)**

**A566 Early Chinese Painting (4 cr.)**

**A567 Later Chinese Painting (4 cr.)**

**A662 Problems in Chinese Painting (4 cr.)**

#### Folklore

**F600 Asian Folklore/Folk Music (3 cr.)**

#### History

**G567 Premodern Japan (3 cr.)**

**G568 Early Modern Japan (3 cr.)**

**G569 Modern Japan (3 cr.)**

**G580 Early China (3 cr.)**

**G582 Imperial China I (3 cr.)**

**G583 Imperial China II (3 cr.)**

**G585 Modern China (3 cr.)**

**G587 Contemporary China (3 cr.)**

**H675 Colloquium in East Asian History (4 cr.)**

**H775 Seminar in East Asian History (4 cr.)**

#### Political Science

**Y333 Chinese Politics (3 cr.)**

**Y334 Japanese Politics (3 cr.)**

**Y557 Comparative Politics Approaches and Issues (3 cr.)<sup>1</sup>**

**Y657 Comparative Politics (3 cr.)<sup>1</sup>**

#### Religious Studies

**R554 Religions of East Asia (3 cr.)**

**R654 The Taoist Tradition (3 cr.)**

**R655 East Asian Buddhism (3 cr.)**

**R657 Religion in Japan (3 cr.)**

#### Theatre and Drama

**T468 Non-Western Drama and Theatre (3 cr.)**

## Economics

### BLOOMINGTON PROGRAM

#### College of Arts and Sciences

**Chairperson** Professor Robert Becker

**Departmental e-mail:** rccunning@indiana.edu

#### Departmental URL:

<http://www.indiana.edu/~econweb>

<sup>1</sup>This course will count toward fulfilling departmental requirements when it deals substantially with East Asian materials.

## Graduate Faculty

**Distinguished Professors** Robert Campbell (Emeritus), H. Scott Gordon (Emeritus, History and Philosophy of Science), Nicolas Spulber (Emeritus), George W. Wilson (Emeritus, Business)

**Chancellors' Professor** Roy Gardner

**Rudy Professor** George von Furstenberg

**Professors** Michael Alexeev, Robert Becker, William Becker, Edward Buffie, Troy Cauley (Emeritus), Paul Kuznets (Emeritus), Clarence Morrison (Emeritus), Lloyd Orr (Emeritus), Phillip Saunders (Emeritus), Arthur Schweitzer (Emeritus), George Stolnitz (Emeritus), Pravin Trivedi, James Walker, Elmus Wicker (Emeritus), Arlington Williams

**Associate Professors** Fwu-Ranq Chang, Michael Kaganovich, Eric Leeper, Elyce Rotella, Willard Witte

**Assistant Professors** Tong Li,\* Peter Pedroni,\* David Schmidt\*

**Director of Graduate Studies** Professor Edward F. Buffie, Wylie Hall 229, (812) 855-8453

**Degrees Offered** Master of Arts, Master of Arts for Teachers, Doctor of Philosophy in economics, and Doctor of Philosophy in economics and business (in cooperation with the Kelley School of Business)

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Twenty-five (25) credit hours of social science and business, including intermediate economic analysis. First-year differential and integral calculus and one semester of linear algebra are required for the Ph.D. and the M.A. Deficiencies in economics must be removed without graduate credit. Graduate Record Examination General Test (verbal, quantitative, and analytical sections) required and Subject Test in economics recommended.

**Grades** At least a B (3.0) average in work taken for an advanced degree.

## Master of Arts Degree

**Course Requirements** A minimum of 30 credit hours, 20 of which must be taken in the Department of Economics, including 9 credits of theory and 6 credits of statistics. A minimum of 18 hours of course work in economics must be numbered E500 or above. Consult the director of graduate studies for specific courses. Up to 6 credit hours are allowable for a thesis.

**Qualifying Field Examinations** The Ph.D. students will offer themselves for examination in at least two primary fields and will complete course work for a supporting field with grades of B or better. One of these fields may be taken outside the Department of Economics. For a joint Ph.D. in economics and business, examinations in two business fields and two economics fields must be taken. Consult the economics department's Graduate Study Guide for further information.

## Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Bloomington campus during the academic years 2000-2002.

E471	E585	E661	E792
E472	E591	E671	E793
E501	E592	E672	E800
E502	E621	E673	E808
E520	E622	E685	E809
E521	E624	E698	E810
E522	E625	E713	E824
E529	E626	E724	E830
E530	E627	E730	E840
E541	E628	E748	E850
E550	E629	E752	E860
E551	E630	E762	E870
E571	E641	E770	E880
E572	E660	E785	E890

## INDIANAPOLIS PROGRAM

### School of Liberal Arts

**Chairperson** Associate Professor Robert Sandy

## Graduate Faculty

**Professors** Subir Chakrabarti, Robert Kirk, Martin Spechler, Richard Steinberg

**Associate Professors** Marc Bilocheau, David Bivin,\* Paul Carlin, Partha Deb,\* Peter Rangazas,\* Patrick Rooney,\* Steven Russell,\* Robert Sandy,\* Mark Wilhelm

**Assistant Professors** Jonathan Burke,\* Geoffrey Warner\*

**Director of Graduate Studies** Associate Professor Partha Deb, Cavanaugh 509D, (317) 274-5216

**Degree Offered** Master of Arts

The Master of Arts in economics has a twofold objective: (1) to provide students with analytical capabilities and research skills for careers in business, government, and the nonprofit sector; and (2) to prepare those who wish to pursue the Ph.D. at another university.

In lieu of writing a thesis, a student may demonstrate reading proficiency in one foreign language or complete 6 credit hours of course work (beyond the required 30 credit hours) in one of the following research skills: decision sciences, computer science, or mathematics. Courses used to fulfill a research skill requirement do not carry graduate credit.

## Master of Arts for Teachers Degree

An individual study program of 36 credit hours will be developed for each student, normally including only courses that may be taken for graduate credit.

## Doctor of Philosophy Degree

**Fields of Study** Choices of fields offered for qualifying examinations must be approved by the Graduate Studies Committee. Fields of study currently available within the department are advanced economic theory, development and economics of transition, econometrics, economic history, games and experimental methods, industrial organization, international trade, macroeconomics and monetary economics. With the approval of the Graduate Studies Committee, one field may be taken outside the Department of Economics. Fields of study in the Kelley School of Business that are available for the joint Ph.D. degree are accounting, finance, operations management, marketing, and decision sciences. Information about other fields may be obtained from the director of graduate studies.

**Course Requirements** A total of 90 credit hours, including the theory sequence E520, E521, E522, E621, E622, and the econometrics-statistics sequence E571, E572, E671. All Ph.D. students join a workshop after passing their core theory exams. There is a minimum requirement of 48 credit hours of course work. A minimum of 45 credit hours must be taken in economics.

### Foreign Language/Research-Skill Requirement

Either (a) proficiency in depth in one language, normally selected from French, German, and Russian; or (b) proficiency in mathematics, decision sciences, or computer science. Courses used to fulfill a research skill requirement do not carry graduate credit.

### Core Theory Examination

Core theory examinations in macroeconomics and microeconomics are taken at the end of the first year in residence. A maximum of two attempts will be permitted on each section. The exams are given in May and retakes are administered in August.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** (1) Applicants should have completed a bachelor's degree from an accredited institution, as documented by two transcripts. Ordinarily, applicants should have a minimum grade point average of 3.0 on a 4.0 scale in their undergraduate work and in their previous economics courses. Before undertaking graduate study, a student should have knowledge of intermediate-level undergraduate economic theory, statistics, multivariate differential and integral calculus, and linear algebra. Students with deficiencies in economics and/or mathematics may be admitted on a conditional basis. (2) The verbal, quantitative, and analytical portions of the Graduate Record Examination (GRE) are required, and applicants are urged to complete the examination by December of the year before admission. (3) Three letters of recommendation are required. For students with English as a second language, a minimum TOEFL score of at least 550 is recommended.

**Course Requirements** Students must complete a minimum of 30 semester credit hours of graduate work, which may include up to 6 credits of thesis. Twelve (12) credits are devoted to the following required core courses: E504 Mathematics for Economists, E521 Theory of Prices and Markets I, E522 Theory of Income and Employment, and E570 Fundamentals of Statistics and Econometrics (3 cr.). These core courses serve as the prerequisites for some of the 500-level field courses. No more than 9 of the remaining 18 credits may be earned in courses numbered below 500. If a thesis is written, it must be defended. If a thesis is not written, there will be a comprehensive written examination with an oral defense in an area of specialization within economics.

Students have the option of replacing the thesis with reading proficiency in a foreign language or with 6 credit hours of course work in the tool skills of mathematics or computer science. Consult the department's Graduate Study Guide for a list of acceptable research-skill courses. Courses taken to meet the language or tool skill options are not counted toward the 30 credits required for the degree.

**Grades** The student must receive at least a C (2.0) in each course and must average at least a B (3.0 on a 4.0 scale) for all courses taken.

## Dual Degree Master of Arts in Economics and Master of Arts in Philanthropic Studies

The dual master's degree in economics and philanthropic studies substantially benefits students intending to pursue a career in independent research, academia, or practice. Normally, those pursuing a career in research or academia continue in a Ph.D. program in economics, finance, accounting, management, marketing, or public policy. Very few doctoral programs include substantial content on philanthropy or nonprofit organizations. As such, the M.A. in philanthropic studies provides a broad interdisciplinary background that makes the future researcher sensitive to the institutional details, values, and history of the sector, thus leading to better research. For the future nonprofit manager or leader, economics provides the principles and methodologies to make informed decisions on the appreciative level, the policy level, and the managerial level.

Admission requirements for the dual degree program are identical to those for each program separately. Separate application must be made to each of the two programs. Students are expected to take responsibility for learning about and meeting the admission requirements of each school individually, which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 51 credit hours rather than the 66 credit hours that would be required if the two degrees were taken separately. Two of the required core courses for the M.A. in Economics may be selected as electives to meet the Philanthropic Studies requirement for two applied electives. One of the required Philanthropic Studies courses, ECON E514, The Nonprofit Economy and Public Policy, may be taken to meet 3 of the 12 credit hours of electives required in the Economics program. A common thesis meets the requirements of both departments.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

## Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Indianapolis campus during the academic years 2000-2002. Other 500-level courses are in the process of being approved.

Contact the department for further information.

E420	E521	E551	E581
E504	E522	E568	E582
E513	E528	E569	E583
E514	E541	E570	E585
E519	E545	E574	E600
			E808

## Courses

### E420 History of Economic Thought (3 cr.)

E471-E472 **Econometric Theory and Practice I-II (3-3 cr.)** P: E370 or S370, E321, and MATH M211 or M215. P or C: MATH M212 or M216.

**E501 Seminar in Economics (3 cr.)** P: consent of the instructor. Advanced topics in economics ranging across all fields.

### E502 Teaching Undergraduate Economics (3 cr.)

Planning, presenting, and evaluating undergraduate economics teaching. Content includes learning theory, instructional objectives, course planning, textbook selection, lecturing and discussion techniques, visual aids and simulation, constructing test and homework problems, grading, student evaluation of instruction, practical classroom teaching problems, and survey of evaluation literature.

### E504 Mathematics for Economists (1-3 cr.)

Topics in mathematics that are particularly useful in the application of microeconomic theory, macroeconomic theory, and econometrics. Topics covered include matrix algebra, comparative-static analysis, constrained optimization, difference equations in discrete time, game theory, and set theory as applied to general equilibrium analysis.

### E514 The Nonprofit Economy and Public Policy (3 cr.)

The role of nonprofit organizations (universities, churches, hospitals, orchestras, charities, day care, research, nursing homes) in mixed economies. Public policy controversies such as regulation of fundraising, antitrust against universities, "unfair" competition with for-profit firms, and the tax treatment of donations. This course may not be taken for credit by anyone who has received credit in ECON E414.

### E519 Regional Economics (3 cr.)

Regional economics is the study of economic behavior in space. The course examines the internal and interregional determinants of growth and decline of a region from supply and demand perspectives. Public policies to influence these determinants are considered.

### E520 Optimization Theory in Economic Analysis (3 cr.)

P: calculus and linear algebra. Introduction to concepts and techniques of optimization theory applied in modern micro- and macro-economics. Theory and application of Lagrange multipliers, comparative statics analysis, value functions and envelope

theorems. Elements of dynamic programming and other methods of economic dynamics.

### E521 Theory of Prices and Markets I (3 cr.)

Develops the methodology of economic analysis and teaches the tools and language of price theory. Fundamental elements of consumer theory, producer theory, and economics of uncertainty. Emphasis on comparative statics and the duality theory.

Topics include welfare analysis, the theory of price indices, quality of goods, revealed preferences, the theory of derived demand, expected preferences, the theory of derived demand, expected utility theory, attitudes toward risk, and various measures of riskness.

### E522 Macroeconomic Theory I (3 cr.)

Introductory course on macroeconomic dynamics; covers growth models and asset pricing theories, endogenous growth theories, optimal growth problems, and competitive dynamic equilibrium models. Dynamic programming tools introduced as needed. All models are cast in a discrete time setup; presents deterministic and stochastic theories.

### E528 Economic Analysis of Health Care (3 cr.)

A graduate introduction to health economics. Applications of economic theory to problems in various areas in health care. Applications of econometric techniques to the same. Topics include how physicians, institutions, and consumers respond to economic incentives and what policies contribute maximally to efficiency and welfare.

**E529 Economic History (3 cr.)** P: E521 or consent of instructor. Use of economic analysis and econometric techniques to examine topics in the development and institutions of the U.S. and European economies.

### E530 International Trade (3 cr.)

P: E521, E621, or consent of instructor. Introduction to theories of international trade (including such topics as pattern of trade, gains from trade, testing trade theories) and analysis of trade policies (including such topics as tariffs, quotas, and strategic trade policy).

**E541 Labor Market Analysis (3 cr.)** P: E520 or E521, or consent of instructor (Bloomington); P: consent of instructor (Indianapolis). An analytical approach to the labor market.

Theoretical underpinning and statistical testing of issues in demand and supply of labor, household decision making, human capital, contract theories, unionism, minimum wages, and discrimination.

### E545 Applied Labor Economics (3 cr.)

Discussion of wage rates and working conditions, searches by workers or firms, investment training, quits and layoffs, shirking, discrimination, the division of household labor, retirement, and implicit contracts. The course also examines the impact

of institutions such as unions and the government on the efficiency of the labor market.

**E550 Monetary Theory and Organization (3 cr.)** Theory and practice of monetary control; supply and demand functions for money; instruments of monetary control; channels through which money exerts an influence on the economy.

**E551 Monetary Economics II (3 cr.)** Introduces alternative models of monetary economics; covers topics in monetary economics, such as money and growth and optimal money growth. The course takes a unified approach to macroeconomic policy, treating monetary and fiscal policy as jointly determining macroeconomic equilibria. May include discussion of empirical work on money.

**E568 Public Finance I (3 cr.)** P: E360, E470, E521, E522. Partial equilibrium, microeconomic analysis of how tax and subsidy policies affect various types of individual and firm behavior. Theoretical models are introduced to assess and develop quantitative studies of fiscal policy.

Summaries of the empirical impact of policy will be formed for the purpose of becoming an "input" in the complete general equilibrium analysis conducted in E569 Public Finance II.

**E569 Public Finance II (3 cr.)** P: E568. Empirical examination of the general equilibrium effects of major tax/subsidy programs, such as personal income taxation, corporate profit taxation, income maintenance, social security, and government provision of education. In addition, proposed reforms to these programs will be analyzed using empirically based simulation models.

**E570 Fundamentals of Statistics and Econometrics (3 cr.)** P: E504. Mathematical overview of statistics and econometrics at graduate level. Topics covered include probability and probability distributions, sampling distributions, tests of hypotheses, estimation, simple regression, multiple regression, generalized linear model and its applications, simultaneous equation systems.

**E571 Statistical Techniques in Economics I (3 cr.)** P: K501 or equivalent. Probability and probability distributions. Theory of estimation and hypothesis testing. Nonparametric statistics.

**E572 Statistical Techniques in Economics II (3 cr.)** P: E571 or equivalent. Regression and time series. Departures from classical regression. Generalized least squares; heteroskedastic models; dynamic regression. Basic asymptotics. Measurement errors and instrumental variables. Some standard nonlinear models. Course covers theory and data analysis.

**E574 Applied Econometrics and Forecasting (3 cr.)** P: E570. An overview of techniques employed in economic model building, estimation and usage. Topics covered include single and multi-equation system estimation, limited dependent variable regression techniques, hypothesis testing, policy analysis, and forecasting. Various forecasting techniques are discussed, including smoothing decomposition methods and time series analysis. A number of projects are assigned throughout the semester in order to give the student hands-on experience with the different techniques.

**E581 Topics in Applied Microeconomics I (3 cr.)** P: E521 and E570 or consent of instructor. This course is a graduate-level introduction to theoretical and empirical applications in two areas of microeconomics. We will demonstrate how economic concepts can be usefully applied to understanding problems in the sub-discipline under study and discuss and apply estimation techniques appropriate for problems in the area.

**E582 Topics in Applied Microeconomics II (3 cr.)** P: E521 and E570 or consent of instructor. This course is a second graduate-level introduction to theoretical and empirical applications in two areas of microeconomics. We will demonstrate how economic concepts can be usefully applied to understanding problems in the sub-discipline under study, and discuss and apply estimation techniques appropriate for problems in the area.

**E583 Topics in Applied Macroeconomics (3 cr.)** P: E522 and E570 or equivalents, or consent of instructor. This course is a graduate-level introduction to theoretical and empirical applications in two areas of macroeconomics. We will demonstrate how economic theories can be usefully applied to understanding problems in the sub-discipline under study and discuss and apply estimation techniques appropriate for problems in the area.

**E585 Industrial Organization and Control (3 cr.)** P: consent of instructor (Indianapolis only). Analysis of interrelated structure, behavior, and performance in industrial markets and multimarket corporations; multidimensional nature of competitive processes. Public controls. Topics include patterns of oligopoly, vertical integration, entry barriers; "cartelized" coalescence, limit pricing, price discrimination, long-term contracts; capacity expansion and utilization, resource reallocation, and innovation.

**E591 Macro Topics in Economic Development (3 cr.)** P: E521, E522, or consent of instructor. Analysis of new theories of economic growth and various issues relating to trade and macroeconomic policy in less-developed countries. Topics include optimal

commercial policy, trade liberalization, exchange rate policy, financial liberalization, and stabilization policy and inflation.

**E592 Economic Development of Less-Developed Countries (3 cr.)** P: E591. Analysis of economic aspects of development in contemporary less-developed countries. Concepts and measurement problems; role of capital and determinants of domestic saving; labor and education in human capital; trade and aid. Emphasis on causes and consequences of development; critical evaluation of the literature.

**E600 Readings in Economics (1-6 cr.)** Individual readings and research.

**E621 Theory of Prices and Markets II (3 cr.)** P: E521, calculus, and linear algebra. Analysis of equilibrium, first- and second-order conditions; statistical derivation of demand and cost curves; activity analysis; general equilibrium; welfare economics; microeconomics of capital theory; pure oligopoly and game theory.

**E622 Macroeconomic Theory II (3 cr.)** P: E522, calculus, and linear algebra. Extends general equilibrium models from E522 by introducing nominal variables, monetary and fiscal policies; some exposure to alternative dynamic models, nominal and real rigidities, market imperfections, dynamically consistent policies. Numerical methods introduced to simulate dynamic stochastic general equilibrium models. Time series methods presented to discuss empirical implications of aggregate models.

**E624 Mathematical Economics I (3 cr.)** P: one year of calculus, one semester of linear algebra, or consent of instructor. Introduction to stochastic control theory with applications to economic control. Covers Wiener process, stochastic integration, Itô's lemma and the stochastic Bellman equation. Applications to economics include optimal growth theory, the inverse optimal problem, adjustment cost theory of supply, exhaustible resources, optimal consumption and portfolio rules, and transactions demand for money.

**E625 Mathematical Economics II (3 cr.)** P: one year of calculus, one semester of linear algebra, or consent of instructor. Mathematical analysis of problems of motion via Central Principle of Motion; dynamic efficiency of centralized and decentralized economic systems; differential games.

**E626 Game Theory (3 cr.)** P: intermediate microeconomics and statistics. Mathematical analysis of strategic interaction. Noncooperative games played once or repeatedly, with perfection or imperfect information. Necessary condition for a solution (equilibrium), as well as sufficient conditions (refinements). Cooperative games,

such as bargaining and market games. Numerous applications, including experimental games.

**E627 Experimental Economics (3 cr.)** P: intermediate microeconomics and statistics. Focuses on the use of laboratory experimental methods in applied microeconomics. Specific application areas will include the analysis of resource allocation mechanisms for both private and public goods and individual choice under uncertainty using both human and nonhuman subjects.

**E628 Advanced Macroeconomic Theory (3 cr.)** P: E622 or equivalent. The course provides an in-depth treatment of major areas in macroeconomics, advancing to the several frontiers at which its theory is currently most tested. These include convergence to rational expectations equilibrium, near-rational solutions, non-Walrasian equilibrium, and the management of incentives and macroeconomic disturbances through contractual arrangements.

**E629 Open Economy Macroeconomics (3 cr.)** P: E622. Combines international finance and open-economy macroeconomics with history and current functioning of the international financial system and the policy and exchange regime choices of countries within it.

Explorations include determinants of current-account balances and exchange-rate dynamics as well as implications of the international mobility of goods, financial services, and capital, international portfolio and direct investment behavior, and financial derivatives.

**E630 International Trade II (3 cr.)** P: E530. Second part of the graduate sequence in international trade. Focuses on analyzing strategic situations in an international context. Topics include imperfect competition in international trade, strategic trade policy, trade policy under incomplete information, and tariff and quota games.

**E641 Quantitative Studies in Labor Economics (3 cr.)** P: E541, E571, and at least concurrent registration in E572 or consent of instructor. Emphasis on the application of statistical and econometric theory and methods in the analysis of current issues in labor economics. The application of models involving discrete choice, search, screening, signaling, contracts, tournaments, and Markov processes to explain various labor market phenomena will be reviewed.

**E660 Public Economics I (3 cr.)** P: E621 or concurrent registration. Analysis of public expenditures and taxation from a microeconomic viewpoint. Topics include externalities, pure and impure public goods, efficiency and distributional effects of taxation, optimal taxation theory, benefit-cost analysis,



**E661 Public Economics II (3 cr.)** P: E660. In-depth analysis of selected aspects of public expenditures and taxation. Illustrative topics: intertemporal and aggregate effects of tax and expenditure policies, emphasizing saving and investment incentives; taxation of risky assets; taxation of imperfectly competitive industries; benefit-cost analysis under uncertainty; public choice.

**E671 Econometrics I (3 cr.)** P: E572 or equivalent. Introduction to econometric theory. Parameter estimation for single and multiple equation systems. Inference and hypothesis testing. Monte Carlo studies.

**E672 Econometrics II (3 cr.)** P: E671 or equivalent. Advanced topics in econometrics. Estimation of dynamic equation systems. Spectrum analysis. Problems of design for large macro-econometric models.

**E673 Topics in Econometrics (3 cr.)** P: E572 or equivalent. Microeconomics with applications to labor, health, and public economics. Extensive coverage of limited dependent variable and panel data models. Empirical implementation an essential component of the course.

**E685 Advanced Industrial Organization (3 cr.)** P: E585. Extends the coverage in E585.

Provides greater in-depth coverage of contemporary industrial organization problems from a theoretical perspective and provides coverage of important industrial organization topics not discussed in E585. Topics include mechanism design, signaling and screening, merger theory, incomplete contracting and the firm, and antitrust and regulation.

**E698 Comparative Economics and Economics of Transition (3 cr.)** P: consent of instructor. Modern approaches to analysis of nonmarket economic systems and mechanisms. Emphasis on the incentives generated by these mechanisms and information flows in the system. Since the field of comparative economics is both theoretical and institutional, students are required to read both analytical pieces containing formal models and descriptive papers.

**E713 Seminar in Economic History (3 cr.)** P: E529 or consent of instructor. Advanced topics in economic history (U.S. and European) with particular emphasis on recent debates in the literature of the new economic history. Application of economic theory and econometric techniques to historical problems.

**E724 Seminar in Economic Theory (3-6 cr.)** Advanced topics in business cycles, general equilibrium, growth, mathematical economics, and welfare economics. Offered periodically.

**E730 Seminar in International Trade (3 cr.)** Third part of the graduate sequence in international trade; intended for those writing

theses in the field. Focuses on a deeper understanding of topics such as the political economy of protection, cooperation in repeated tariff games, trade negotiations, and multinational enterprises.

**E748 Seminar in the Economics of Labor and Human Resource Development (3 cr.)** P: E541 or consent of instructor. Selection from current issues in labor: labor markets, comparative labor economics, human capital, workforce planning, and labor relations.

**E752 Seminar in Money (3 cr.)** Current topics in advanced monetary and banking theory. Preparation of a research paper and oral presentation to a seminar.

**E762 Seminar in Public Economics (3 cr.)** Advanced topics in public economics. Preparation of a research paper and oral presentation to the seminar.

**E770 Seminar in Econometrics (3 cr.)** Advanced topics in econometrics in time series and/or cross-sectional data analysis.

**E785 Seminar in Industrial Organization (3 cr.)** Third course in the graduate industrial organization sequence; intended for those writing in the field. Topics include bargaining, reputation, oligopoly, research and development, vertical restraints, entry deterrence, transaction costs, and international industrial organization.

**E792 Workshops in Problems of Development (3 cr.)** In-depth study of specific underdeveloped area or specific topic in problems of underdevelopment.

**E793 Seminar in Planning Strategies and Techniques (3 cr.)** P: E591. Analysis of strategic choices and planning methods in Western economies and socialist economies in transition. Theory and practice of planning in underdeveloped countries.

**E800 Research in Economics (cr. arr.)\***

**E808 Thesis (M.A.) (cr. arr.)\***

**E809 Thesis (Ph.D.) (cr. arr.)\***

**E810 Readings in Economic History (1-6 cr.)\***

**E824 Readings in Economic Theory (1-6 cr.)\***

**E830 Readings in International Trade (1-6 cr.)\***

**E840 Readings in Economics of Labor and Human Resource Development (1-6 cr.)\***

**E850 Readings in Monetary Economics (1-6 cr.)\***

**E860 Readings in Public Finance (1-6 cr.)\***

**E870 Readings in Econometrics-Statistics (1-6 cr.)\***

**E880 Readings in Industrial Organization (1-6 cr.)\***

**E890 Readings in Development and Economics of Transition (1-6 cr.)\***

**Graduate (Bloomington only)**

**G590 Population Analysis: Concepts, Issues, Problems (3 cr.)** P: graduate status or consent of instructor. Materials, main measures, and methods for studying population change, with emphasis on the mortality, fertility, and migration components of change, their determinants, and consequences. Leading theories of population-development and population-welfare interrelations since Malthus and Marx. Population in development planning and socioeconomic policy formulations.

**G591 Methods of Population Analysis and Their Applications (3 cr.)** P: a course in statistics. Techniques of measuring and analyzing population size and trends, fertility and mortality patterns, migration flow. Population estimates and projects. Major models of formal demography.

**G592 Topics in Population Research (3 cr.)** P: G590 and G591 or consent of instructor. Seminar-level course emphasizing class presentations, reviews of advanced literature, and the writing of research papers. Subject areas will include fertility, mortality, migration, economic-demographic interrelations, mathematical demography, dynamics of small populations, and population projections.

**G593 International Perspectives on Population Problems (3 cr.)** International trends in population growth, characteristics, and structure with attention to major social, environmental, economic, and political implications. Comparisons between industrially advanced economies and less developed countries in Latin America, Africa, and Asia. Special emphasis will be placed on local and national circumstances affecting fertility, mortality, migration, and emerging roles of population policies in development planning.

**G773 Seminar in Economic History (1-6 cr.)** Selected topics in economic history. Offered by the Departments of Economics and History and the Department of Business Economics and Public Policy in the School of Business. May be taken more than once for credit.

## Education

School of Education

Dean Professor Gerardo W. Gonzalez

Departmental e-mail: [educate@indiana.edu](mailto:educate@indiana.edu)

Departmental URL: <http://www.indiana.edu/~educate/admiss.html>

## Graduate Faculty

Professors Hans Andersen, Robert Armore, Trudy Banta (I), Charles Barman (I), Christine

Bennett, Landon Beyer, Harbans Bhoia, Paul Blohm (NW), Ellen Brandtlinger, Barry Bull, Leonard Burrello, Michael Cohen (I), Jack Cummings, Donald Cunningham, Roger Farr, Duffy, Lee Ehtman, Susan Eklund, Roger Farr, William Foster, Thomas Froehle, Dorothy Gabel, Jesse Goodman, Thomas Gregory, Stuart Hart (I), Jerome Harste, Don Hossier, Gary Ingersoll, Susan Klein, Dennis Knapczyk, George Kuh, Frank Lester, David Mank, H. Martha McCarthy, Edward McClellan, Larry Mikulecky, Marianne Mitchell, D. Keith Morran (I), Daniel Mueller, Carlos Ovando, John Patrick, Lewis Polsgrove, Charles Reigeluth, Charles Ridley, Jose Rosario (IN), Thomas Schwandt, Myrtle Scott, Marcia Sheridan (SB), Martin Stegel, Edward St. John, Frances Stage, Rex Stockton, Michael Tulley (K), Donald Warren, Barbara Wilcox (I), Barbara Wolf, Enid Zimmerman

**Associate Professors** Joyce Alexander, John Bean, Jacqueline Blackwell\* (I), James Boland\* (NW), Elizabeth Boling, Curtis Bonk, William Boone, Marilynne Boyle-Baise,\* Catherine Brown, Cary Buzzelli, Judith Chafel, Nancy Chism, Beatriz D'Ambrosio (I), Ginette Delandshere,\* David Flinders, Theodore Frick, Enrique Galindo,\* Jerry Galloway\* (NW), M. Gail Hickey\* (FW), Mary Beth Hines,\* Thomas Huberty, Diana Lambdin, Christine Leland\* (I), Linda Mabry,\* Terrence Mason,\* Luise Prior McCarthy, Kim Metcalf, Michael Molenda, Martha Nyikos, Michael Parsons (I), Joanne Peng, James Pershing,\* Sharon Pugh, Charlotte Reed\* (NW), Floyd Robison (I), Patricia Rogan\* (I), Pamela Sandoval\* (NW), Florence Sawicki\* (NW), Kenneth Schoon\* (NW), Geoffrey Schultz\* (NW), Thomas Schwen, David Silk\* (I), Carmen Simich-Dudgeon,\* Russell Skiba, Neil Theobald, Chalmer Thompson, Michael Tracy, Clyde Wiles\* (NW)

**Assistant Professors** Guadalupe Anaya,\* Sasha Barab,\* Beth Berghoff\* (I), Deborah Carter,\* Joy Egbert,\* Bradley Levinson,\* Mitzzi Lewison,\* Prisca Martens\* (I), Mary Sue Mau\* (I), Mary McMullen,\* Anastasia Morrone\* (I), Robert Osgood\* (I), Jonathan Plucker, Anne Dopkins Stright\*

**Emeritus** Anita Aldrich, Jean Anderson, Alan Bell, Dean Berkley, Laurence Brown, Edward G. W. Buffie, Carolyn Burke, Philip Chamberlain, Clinton Chase, Michael Chiappetta, Lian-Hwang Chiu (K), Lewis Cimino\* (NW), Gilbert Clark, T. James Crawford, Ivor Davies, Bette Davis,\* Maxine Dunfee, Earl Dvorak, Meryl Englander, Gene Faris, Leo Fay, Albert Fink, Malcolm Fleming, Raymond Gibson, Robert Gibson, David Glessman, Richard Gousha, Sadie Grimmer, Egon Guba, Samuel Guskin, Carolyn Guss, Dale Hall,\* Robert C. Harris, Robert Heinrich, Ernest Horn, Guy Hubbard, Lawson Hughes,



Edward Jenkinson, Alice Iwaidel, Christian Jung, James Knowlton, DeWayne Kurpius, Duane Lang, Lawrence Larson, John LeBlanc, William Lynch, James Mahan, R. Bruce McQuigg, John McKinley, George Maccia, Donald Manlove, Gerald Marker, Milton Marten,\* Jerry McIntosh, Howard Mehlinger, John Moldstad, Anabel Newman, Anna Ochoa, Norman Overly, Vernon Pace, Dennis Pett, Joan Prentice, Edward Robbins (I), Robert Shafter, June Shane, Carl Smith, Frederick Smith, Gerald Smith, Vernon Smith, Josephine Spear, Elizabeth Steiner, James Walden, James Weigand, Virginia Woodward

FW after a faculty member's name indicates that the person teaches at the Fort Wayne campus; J, at Indiana University-Purdue University Indianapolis; E, at the East campus; K, at Kokomo; NW, at the Northwest campus; and SB, at South Bend.

**Associate Dean for Graduate Studies**  
Professor Luise McCarty, 4072 Education, (812) 856-8543

**Degrees Offered** The Doctor of Philosophy (Ph.D.) degree is offered through the University Graduate School. In addition, the School of Education offers the Master of Science (M.S.) in Education, the Specialist in Education (Ed.S.), and the Doctor of Education (Ed.D.) degrees. (See the School of Education Graduate Bulletin.)

## Doctor of Philosophy Degree

**Fields of Study** Counseling psychology; curriculum and instruction; educational psychology; higher education; history; philosophy and policy studies in education; instructional systems technology; language education; and special education.

**Program of Studies** The Ph.D. degree with a major in education is pursued under the direction of a committee appointed by the University Graduate School and the School of Education. As with other Graduate School doctoral programs, a minimum of 90 hours of course work is required. This includes a major (selected from the fields of study listed above), a minor, a series of research courses, and a dissertation. Written and oral qualifying examinations are taken following course work; a final oral defense of the dissertation research completes the program. Up to 30 hours of graduate course work may be transferred from other universities, with the approval of the advisory committee.

**Admission** Admission recommendations are made by program area and School of Education admission committees and are based on graduate and undergraduate grades (especially in academic courses), scores on the General test of the Graduate Record

Examination, and letters of recommendation. Interviews are required in some programs.

Application forms are available from the School of Education Office of Graduate Studies, Wright Education Building 4070.

Students earning a Ph.D. degree in Education must fulfill all requirements of the University Graduate School (as found in this bulletin) and of the School of Education (as found in the School of Education Graduate Program Bulletin).

## English

### BLOOMINGTON PROGRAM

#### College of Arts and Sciences

**Chairperson** Professor Kenneth Johnston

**Associate Chairperson** Christine Farris

### Graduate Faculty

**Distinguished Professors** Philip Appleman (Emeritus), Susan Gubar, James Justus (Emeritus), Terence Martin (Emeritus), Scott Sanders

**Chancellors' Professor** Judith Anderson

**Ruth Lilly Professor of Poetry** Maura Slanton

**Culbertson Chair of Writing** John Schilb

**Ruth N. Halls Professor** Paul John Eakin

**Professors** Anthony Ardzizzone, George Barnett (Emeritus), Frederick Beatty (Emeritus), Ernest Bernhardt-Kabisch (Emeritus), Patrick Brantlinger, Lawrence Clopper, Don Cook (Emeritus), Alfred David (Emeritus), Georges Edelen (Emeritus), Charles Forker (Emeritus), Robert Fulk, Mary Gailther (Emeritus), Donald Gray (Emeritus), Kenneth R. R. Gros Louis, Robert Gross (Emeritus), Raymond Hedim, H. James Jensen (Emeritus), Kenneth Johnston, Eugene Kintgen, M. Eugene Lawlis (Emeritus), Peter Lindabaum, Christoph Lohmann (Emeritus), Lewis Miller, Roger Mitchell (Emeritus), Cornelia Nixon, David Nordloh, Alvin Rosenfeld (Jewish Studies), Murray Sperber, Stuart Sperry (Emeritus), Stephen Watt, Albert Wertheim, William Wiatt (Emeritus), David Wojahn, Paul Zietlow (Emeritus), Malvin Zirker (Emeritus)

**Associate Professors** James Adams, William Burgan (Emeritus), Linda Charnes, Eva Cherniavsky, Jonathan Elmer, Christine Farris, Mary Favret, Thomas Foster,\* Jeffrey Huntsman, Sheila Lindenbaum,\* Alyce Miller,\* Andrew Miller, Richard Nash,\* Joan Pong Linton,\* Michael Rosenblum, Cynthia B. Roy, John Schilb, Lee Sterrenburg,\* Helen Sword,\*

Timothy Wiles, Nicholas Williams,\* John Woodcock

**Assistant Professors** Purnima Bose,\* Paul Gujzahr,\* Wendy Hesford,\* Janet Sorensen,\* Mary K. Trotter\*

**Adjunct Professors** Mary Ellen Brown, Matei Calinescu (Emeritus), Robert Kelly, Oscar Kenshur, John McCluskey Jr., James Naremore

**Adjunct Associate Professors** Barbara Klinger, Herbert Marks, Melvin Plotinsky (Emeritus)

**Director of Graduate Studies** Associate Professor Nicholas Williams, Ballantine Hall 442A, (812) 855-1543

**Degrees Offered** Master of Arts, Master of Doctor of Teachers, Master of Fine Arts, and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate major or its equivalent. Graduate Record Examination, both the General Test and the Subject Test in English literature. A potentially superior student who has not majored in English may be admitted conditionally, but must remove deficiencies without graduate credit. Students who wish to be admitted for the M.A. or M.F.A. in creative writing must submit samples of their work.

**Foreign Language Requirements** For the M.A.T. and M.F.A. degrees, none. For the M.A., reading proficiency in one of the following: French, German, Greek, Italian, Latin, Russian, Spanish. For the Ph.D., either (a) reading proficiency in two languages (one will be French, German, or Latin; the second will be a language from the M.A. list or, by approval of the director of graduate studies, another foreign language or courses in computer science), or (b) proficiency in depth in one language.

Language requirements should be met as soon after beginning graduate work as possible. A student is expected to be working on fulfilling the proficiency requirements every semester until they are completed.

**Grades** M.A. and M.A.T. students must maintain a 3.0 (B) grade point average; M.F.A. and Ph.D. students, a 3.5 grade point average. Admission to the Ph.D. normally requires a 3.7 grade point average and the recommendations of graduate faculty.

## Master of Arts Degree with Concentration in Literature

**Course Requirements** A minimum of 30 credit hours, including an L680 or a 700 level

seminar. At least one course must be chosen from each of four of the following six fields:

- 1) Medieval British Literature and Culture
- 2) Early Modern British Literature and Culture
- 3) British and/or American Literature and Culture 1640-1830
- 4) British and/or American Literature and Culture 1800-1900 (including Celtic, Transatlantic, African-American)
- 5) Literatures in English, Twentieth and Twenty-First Centuries (including African-American, Hispanic/Latina(o), Asian American, Postcolonial)
- 6) Literacy, Pedagogy, Composition Theory, Literary Theory, English Language. International students whose native language is not English must take L500. Up to 8 credit hours in graduate courses outside the department may, with the prior approval of the director of graduate studies, be counted toward the degree.

**Thesis** Optional; if elected, 4 hours of credit.

**Final Examination** None.

## Master of Arts Degree with Concentration in Writing

**Course Requirements** W611-W612 or W613-W614; five departmental courses in literature, literary criticism, or English language. Poets may substitute Comparative Literature C570 Theory and Practice of Translation for one of the five required departmental courses; writers of fiction may substitute Theatre and Drama T453 or T454 Playwriting.

**Thesis** Required; the candidate must submit, for 4 hours of credit, a body of creative writing of high literary merit and genuine promise.

**Final Examination** None.

## Master of Arts Degree with Concentration in Language

**Course Requirements** A minimum of 30 credit hours, including C500, G780, and at least 12 further credit hours in English language courses, of which at least one course must be selected from among G601, G602, G651, and G655.

**Thesis** Optional; if elected, 4 hours of credit.

**Final Examination** A four-hour written examination. See director of graduate studies for details.

## Master of Arts for Teachers Degree

**Prerequisite** Public-school certification in English. Applicants lacking no more than 6 credit hours for certification may be permitted

to complete the certification requirements as part of the degree program.

**Course Requirements** A total of 36 credit hours, of which 20 credit hours must be in graduate English courses, including G500, G601, G651, or G655 (at least 12 of these 20 credit hours must be taken on the Bloomington campus); 6 credit hours in graduate education courses, including L516 and one additional advanced curriculum course (recommended: S503 or S530); if a minor is to be professionalized, at least 12 credit hours in the subject area. No undergraduate courses will be counted toward the degree.

**Thesis and Final Examination** None.

### **Master of Fine Arts in Creative Writing**

**Course Requirements** A total of 60 credit hours, including 16 credit hours of writing workshops (W611-W612 or W613-W614); 16 credit hours from among the department's literature and language offerings, at least 8 of which must be at the L600 level or above; W554; and W664 or W680. Those teaching in W103 Introductory Creative Writing are required to take W554 in their first semester of teaching. Students can take up to 12 credit hours in W699 M.F.A. Thesis. The remaining credit hours are elective. At least 48 credit hours of the degree requirements must be completed in residence.

**Thesis** Required; the student must submit, for 4-12 hours of credit, a book-length manuscript.

### **Doctor of Philosophy Degree**

**Admission Requirements** Students are eligible for admission to the Ph.D. programs upon successful completion of the M.A. requirements; additional prerequisites for admission include L506 and at least two 700-level seminars.

**Periodic Review** Each year the graduate faculty will examine the grades and instructors' reports on all students and will discourage from further work those whose achievements and potential are below standard. Students who fail to maintain a 3.7 grade point average or who accumulate three or more grades of Incomplete will be placed on departmental probation.

**Minors** Ph.D. students in English may take minors in the following departments and programs: American studies, Afro-American studies, art history, comparative literature, cultural studies, English and German philology, film studies, folklore, French, gender studies, German, Greek, history, Italian, journalism, Latin, linguistics, medieval

studies, performance studies, philosophy, religion, Renaissance studies, Slavics, Spanish, theatre and drama, Victorian studies, and West European studies. Requirements for the minor are set by the minor department.

The Department of English offers the following minors: American literature, British literature, children's literature, pedagogy, creative writing, English and Germanic philology, English language, literary theory, and textual studies. Minors within the department must be approved by the director of graduate studies.

**Qualifying Examination** A two-part examination, written and oral. All students choose topics in consultation with their advisory committees. The five-hour written part may be taken at the convenience of the student and his/her advisory committee. The two-hour oral part will be administered as soon as possible after the written part. Details are available from the director of graduate studies. The examination may not be taken until the student has fulfilled the language proficiency requirement. The examination may be repeated once.

**Research Proposal** After advancement to candidacy, the student will select a research committee consisting of no fewer than three members of the English Department faculty and a representative of the minor. When the director of the research committee has approved the dissertation proposal, the student will formally present it to a meeting of the research committee for comment and approval.

**Final Examination** Oral, primarily a defense of the dissertation.

### **Doctor of Philosophy Degree with Concentration in Literature**

**Course Requirements** A total of 90 credit hours; students will be required to take 16 credit hours in English beyond the 30 credit hours required for the M.A.; and to take at least one course in a fifth distribution field (for a total of coursework in 5 out of the 6 fields). At least four 700-level seminars in English are required for the Ph.D. Students must also satisfy course requirements for a graduate minor.

### **Doctor of Philosophy Degree with Concentration in Language, Literature, and Literacy**

**Course Requirements** A total of 90 credit hours, including a minimum of 16 credit hours (four courses) beyond the 30 credit hours required for the M.A. degree, to include at least three 700-level departmental seminars.

The total must include L502 and L705 and one course in each of the following three areas: historical and philosophical perspectives on literacy, educational perspectives on literacy, and cross-disciplinary perspectives on literacy. Information about relevant courses, including those offered by other departments, is available from the chair of the Literacy Committee and the student's advisory committee.

**Ph.D. Minor in English and Germanic Philology** Four courses, to include G601 Old English and at least one of the other older Germanic languages, i.e., German G632 Gothic, G635 Old Icelandic, G638 Old High German, G639 Old Saxon, and G640 Middle High German. The remaining courses may be chosen from: English G602 Middle English, G655 History of the English Language; L710 Beowulf; L711 Old English Literature; German G532 History of the German Language, and G625 Colloquium in Germanic Linguistics, (when the topic is appropriate), G640 Reading Middle High German, G636 Old Icelandic Literature, G835 Seminar in Germanic Linguistics (when the topic is appropriate), and any of the remaining older Germanic languages listed above.

**Ph.D. Minor in Feminist Critical Studies** The Feminist Critical Studies minor emphasizes feminist criticism and theory. It requires four courses (at least 15 hours of credit) including English L673 Introduction to Feminist Critical Studies and at least one course outside the Department of English; each course must be passed with a grade of B+ (3.3) or higher. Relevant courses include English L605, L700, L707, and L773; Fine Arts A474 and A674; Cultural Studies C601 and C602; Communication and Culture C551 and C604; and Telecommunications T651. Students should consult with the minor advisor in the English department about specific courses of study.

**Ph.D. Minor in Literary Studies** Jointly administered by the Department of English and the School of Education, the minor requires a minimum of four courses, including English L502, Education L630, and two courses selected from an approved list, at least one of which must be outside the English Department. For School of Education students, three of the four courses must be outside the student's major area. Students should confer with one of the advisors of the Literacy Studies

minor; their names can be obtained from the Director of Graduate Studies.

**Ph.D. Minor in Literary Theory** Jointly administered by the Departments of English and Comparative Literature, the minor requires a minimum of three courses, including at least one selected from Comparative Literature C503, C504, C601, or C602; and one from English G660, L605, L607, L608, or L707. Other courses approved for the minor are French and Italian F584 and C560; Germanic Studies G800; Slavic Languages and Literatures R521; Spanish and Portuguese S473 and S512; and Theatre and Drama T555 and T556. Courses other than those listed above may also be acceptable toward completion of the requirement; written consent to count such courses must be obtained in advance from the graduate advisor in the Department of English or Comparative Literature.

**Ph.D. Minor in Literature and Science** The Literature and Science minor consists of four courses. Two of the four will be English Department courses from the area of literature and science. One of those English courses will be L769, Literature and Science, the "core" course for the minor. The non-English department courses will either come from a relevant science, or from the Department of History and Philosophy of Science or from some other relevant (non-literary) discipline. The minor will be administered by the Director of Graduate Studies in English, in consultation with the literature and science faculty as necessary.

### **Area Certificate in English and Germanic Philology**

Also offered is a certificate in English and Germanic philology, requiring four courses in addition to the four required for the minor. These may include any of the courses listed above, as well as courses in other departments (e.g. linguistics, folklore, classical studies, and anthropology) that are relevant to the history and prehistory of the Germanic languages, and to early Germanic literature and culture. For information about relevant courses see the graduate advisor in the Department of English.

### **Courses Offered**

The following courses, which are drawn from the complete graduate list below, are expected to be offered on the Bloomington campus during the academic years 2000-2002.

analysis and production of "texts." To this end, the program covers issues and skills in reading and writing, in the richest sense of these words—in order to prepare students to address these issues and to teach these skills. Graduates of the program should be prepared for such careers as teaching writing and literature, teaching English as a second language, and writing for business, government, and other professions.

In contrast to traditional M.A. programs, which place heavy emphasis on literary history, the IUPUI program focuses on the application of English studies to contemporary situations and problems. While interested students will be encouraged to take courses in literary history, graduates of this program will no doubt have to take additional literary history courses to be qualified candidates for traditional doctoral programs. Because of IUPUI's urban, nonresidential setting, its English graduate program will strive, in its curriculum and scheduling, to meet the special needs of part-time, nonresidential students.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** (1) Applicants should have a bachelor's degree from an accredited college or university, with a minimum grade point average of 3.0 on a 4.0 grading scale in the student's undergraduate major, documented by an official transcript. Applicants are normally expected to have been English majors, but admission will be considered also for those who otherwise demonstrate the competency necessary for successful graduate work in English. (2) The Graduate Record Examination (GRE) General Test with a score of 600 in at least one of the three areas. Applicants are encouraged to take the examination by December of the year prior to admission. (3) Three letters of recommendation.

**Foreign Language Requirements** None, but M.A. students going on for the Ph.D. are encouraged to validate their reading proficiency in a foreign language according to University Graduate School standards.

**Grades** M.A. and M.A.T. students must maintain a 3.0 (B) grade point average.

**Course Requirements** The M.A. in English and the M.A.T. in English have identical requirements. Both degrees require 36 credit hours, including 12 hours of "core" courses, 12-16 hours of "area" courses, 4-8 hours of internship, and 4 hours of thesis work. The

three core courses provide an introduction to three major areas in the discipline of English: Language: G500 Introduction to the English Language; Writing: W500 Teaching Composition: Issues and Approaches; Literature: L506 Issues and Motives of Literary Studies. These courses, which carry 4 credit hours each, should be taken at the beginning of the graduate program.

### Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Indianapolis campus during the academic years 2000-2002.

G500	L532	L655	W553
G541	L534	L681	W590
G625	L553	L695	W600
G652	L560	L699	W609
L502	L573	W500	
L506	L590	W510	

### Courses

#### 500 Level

The 500 level is reserved for courses that are methodologically, professionally, and pedagogically oriented.

**G500 Introduction to the English Language** (4 cr.) An introduction to the English language: its nature, structure, and development.

**G541 Materials Preparation for ESL Instruction** (4 cr.) Students will learn about materials preparation, syllabus design, and test preparation by applying a variety of theories to books and other ESL (English as a second language) teaching devices (e.g. tapes, videotapes, computer and software programs) in order to evaluate their usefulness and will learn to evaluate ESL materials for adequateness.

**L532 Second Language Acquisition** (3 cr.) (offered as Linguistics L532 at Bloomington)

**L534 Linguistics Resources and TESOL** (3 cr.) (offered as Linguistics L534 at Bloomington)

**L500 Introduction to Graduate Study for International Students** (4 cr.) The methods and assumptions of graduate study in English and American literature, with special emphasis on classroom participation, the preparation and delivery of reports, and the writing of critical essays based on individual research. Admission must be approved by the departmental advisor for international students.

**L501 Professional Scholarship in Literature** (4 cr.) Materials, tools, and methods of research.

**L502 Introduction to Literacy Studies and the Teaching of College English** (4 cr.) Historical and cognitive effects of writing, reading, and

language use, and the implication of these effects for the teaching and study of literature and writing.

**L503 Teaching of Literature in College** (1-2 cr.) Classroom teaching of literature in the light of current approaches.

**L505 Teaching Children's Literature at the Post-Secondary Level** (2 cr.) Classroom teaching of children's literature in the light of current approaches.

**L506 Issues and Motives of Literary Studies** (4 cr.) The conditions and assumptions of studying English, with emphasis on the application of theory to a culturally and historically diverse range of writings.

**L553 Studies in Literature** (1-3 cr.) Primarily for secondary-school and junior-college teachers of English. Emphasis on thematic, analytic, and generic study. With consent of instructor, may be repeated once for credit.

**L560 Literary Studies in England and Scotland** (6 cr.) Provides on-site opportunities in England and Scotland to explore the literary landscapes of British authors in relation to the English and Scottish school systems. Designed primarily for education majors and continuing certification credits. Offered biannually.

**L573 Studies of Literary Appreciation I** (3 cr.)

**L590 Internship in English** (4 cr.) A supervised internship in the uses of language in the workplace. Each intern will be assigned a problem or task and will develop the methods for solving or completing it. Each intern will complete a portfolio of workplace writing and self-evaluation.

**W500 Teaching Composition: Issues and Approaches** (4 cr.) Consideration of fundamental issues in the teaching of writing and the major approaches to composition instruction. Specific topics include teaching invention and revision, diagnosing errors, teaching style and organization, making assignments, and evaluating student writing.

**W501 Teaching of Composition in College** (1-2 cr.) Practical teaching of composition; current theories and policies.

**W510 Computers in Composition** (4 cr.) Based in current theories about the process of writing, this course surveys the use of computer programs (such as word processing) as writing tools, computer-assigned instruction as teaching aids, and computer programs as research aids to study writing.

**W511 Writing Fiction** (4 cr.) Either W511 or W513 may count once for the M.A. or M.F.A., but not toward specified course requirements for the Ph.D.

**W513 Writing Poetry** (4 cr.) Either W511 or W513 may count once for the M.A. or M.F.A., but not toward specified course requirements for the Ph.D.

- W553 Theory and Practice of Exposition (1-3 cr)** Primarily for secondary-school and junior-college teachers of English.
- W554 Teaching Creative Writing (2 cr)** Theory and practice of teaching the writing of poetry and fiction at the college level, with attention to matters of curricular design and classroom technique. Required of those teaching W103 for the first time. Open also to graduate students not in the creative writing program.
- W590 Teaching Composition: Theories and Application (4 cr.)** Current theories of composition and their pedagogical implications.
- 600 Level**  
600-level courses in literature may be taught either as topical colloquia or historical surveys, at the discretion of the instructor. All courses at this level will be understood as preparatory to the kind of work done in 700-level seminars, without prerequisites.
- G601 Introduction to Old English (4 cr.)** G500 recommended but not required. Introduction to the phonology, morphology, and syntax of Old English; intensive reading of major prose and verse texts.
- G602 Introduction to Middle English (4 cr.)** P: G601 or equivalent; G500 recommended but not required. Introduction to the phonology, morphology, and syntax of Middle English; study of the regional dialects; intensive reading of major prose and verse texts.
- G603 Celtic Languages and Literature (4 cr.)** P: G500 or its equivalent. Introduction to such languages as Old Irish and Welsh, or literatures in these languages. Topic varies.
- G625 Introduction to Text Linguistics/Discourse Analysis (4 cr.)** This course introduces students to current approaches to text and discourse coherence, including recent theories of cognitive and interactional text modeling.
- G651 American English (4 cr.)** Growth and development of the English language in America from the first settlements to the present; dialectal diversity of American English.
- G652 English Language Sociolinguistics (4 cr.)** A survey course in American and British sociolinguistics, this course investigates the theoretical bases, the major works, and the methodological approaches of current sociolinguistics.
- G655 History of the English Language (4 cr.)** A survey of the evolution of the English language from its earliest stages to the present, with reference to its external history and to its phonology, morphology, syntax, and vocabulary.
- G660 Stylistics (4 cr.)** Survey of traditional and linguistic approaches to the study of prose and poetic style. Attention will center on the description of the verbal characteristics of texts, what those characteristics reflect about the author, and how they affect the reader.
- L605 Critical and Interpretive Theory (4 cr.)** Introduction to one or more major modes of contemporary criticism or critical theory.
- L607 History of Literary Criticism to the Enlightenment (4 cr.)** A survey of the history of literary criticism and theory from Plato and Aristotle to the Enlightenment, including works by Greco-Roman, medieval, and Renaissance figures.
- L608 History of Literary Criticism from 1750 to 1960 (4 cr.)** A survey of the history of literary criticism and theory from the late Enlightenment or early Romantic periods to 1960, including a variety of modern literary critics and theorists.
- L612 Chaucer (4 cr.)** Critical analysis of *The Canterbury Tales*, *Troilus and Criseyde*, and selected shorter poems.
- L613 Middle English Literature (4 cr.)** P: L612 or G602 or equivalent.
- L616 English Drama to the 1590s, Exclusive of Shakespeare (4 cr.)**
- L621 English Literature 1500-1660 (4 cr.)** Extensive reading in nondramatic literature.
- L622 Spenser and Milton (4 cr.)** Critical analysis of the major texts.
- L623 English Drama from the 1590s to 1800, Exclusive of Shakespeare (4 cr.)** P: familiarity with half a dozen plays of Shakespeare.
- L625 Shakespeare (4 cr.)** Critical analysis of selected texts.
- L631 English Literature 1660-1790 (4 cr.)** Extensive reading in poetry and nonfictional prose.
- L639 English Fiction to 1800 (4 cr.)**
- L641 English Literature 1790-1900 (4 cr.)** Extensive reading in poetry and nonfictional prose.
- L645 English Fiction 1800-1900 (4 cr.)**
- L649 British Literature since 1900 (4 cr.)** Extensive reading in all genres.
- L651 American Literature 1609-1800 (4 cr.)** Intensive historical and critical study of all genres from John Smith through Charles Brockden Brown.
- L653 American Literature 1800-1900 (4 cr.)** Intensive historical and critical study of all genres from Washington Irving through Frank Norris.
- L655 American Literature and Culture 1900-1945 (4 cr.)** Study of American literature and culture from the turn of the century to 1945.
- L656 American Literature and Culture 1945 to the Present (4 cr.)** Studies in American literature and culture from 1945 to the present.
- L663 Introduction to Feminist Critical Studies (4 cr.)** An introduction to and examination of major works, methods, issues, and developments in feminist theory and criticism.
- L666 Survey of Children's Literature (4 cr.)** Survey of literature written for children and adolescents from the medieval period to the present.
- L671 Modern British and Irish Drama (4 cr.)**
- L672 Modern American Drama (4 cr.)**
- L673 Studies in Women and Literature (4 cr.)** Women's literary accomplishments and representations of women in English from the sixteenth century to the present.
- L674 Studies in Internationa English Literature (4 cr.)** Literatures from Africa, the Caribbean, Australia, New Zealand, the Pacific islands, the Indian subcontinent, or Canada.
- L680 Special Topics in Literary Study and Theory (4 cr.)** Readings in sociological, political, psychological, and other approaches to literature.
- L681 Genre Studies (variable title: The Epic) (4 cr.)**
- L695 Individual Readings in English (1-4 cr.)**
- L699 M.A. Thesis (cr. arr.)**
- W600 Topics in Rhetoric and Composition (4 cr.)** Covers selected issues in current composition and rhetorical theory. May be repeated once for credit with a different topic.
- W601 Development of Rhetoric and Composition (4 cr.)** Traces the development of rhetorical theory from Plato through the Renaissance and up to the present; puts special emphasis on exploring how present-day composition programs and practices reflect the past.
- W602 Contemporary Theories in Rhetoric and Composition (4 cr.)** An introduction to current research in rhetoric and composition. Draws on insights from linguistic theory, cognitive theory, and rhetorical theory to develop greater understanding of the writing process and build pedagogical applications.
- W609 Directed Writing Projects (1-4 cr.)**
- W610 Indiana Writing Workshop (2 cr.)** P: acceptance to the Indiana Writers' Conference held in June of each year. Intensive training in various forms of writing at the conference; submission of significant body of writing before the end of the last summer session.
- W611-W612 Writing Fiction I-II (4-4 cr.)** May be repeated once for credit.
- W613-W614 Writing Poetry I-II (4-4 cr.)** May be repeated once for credit.
- W615 Writing Creative Nonfiction (4 cr.)** Writing workshop in such modes as personal
- essay, autobiography, and documentary. Open also to graduate students not in the creative writing program.
- W664 Topics in Current Literature (4 cr.)** The study of recent poetry and prose, emphasizing special formal, technical, and intellectual concerns of author and work. Open also to graduate students not in the creative writing program.
- W680 Theory and Craft of Writing (4 cr.)** Elements of poetic prosody or the major fictive techniques or both: nature of stress, concepts of meter, nature of rhythm, prosodic use of syntax, theories of fictive realism, nature of fictive romance, point of view, etc. Students will do some writing. Open also to graduate students not in the creative writing program.
- W697 Independent Study in Writing (1-4 cr.)** P: two semesters of W611, W612, W613, or W614.
- W699 M.F.A. Thesis (cr. arr.)**
- 700 Level**  
The following courses are seminars requiring directed individual study and investigation. For each the prerequisite is advanced graduate standing, or a 600-level course in the subject, or the consent of the instructor; it is recommended that a student take L501 before enrolling in a seminar. With consent of the instructor, a student may take a 700-level course twice for credit.
- G780 Special Studies in English Language (4 cr.)** P: G500 or equivalent.
- L700 Topics in Feminist Critical Studies (4 cr.)** Readings in feminist theories of representation, gender, sexuality, the institution, or other areas of feminist critical endeavor.
- L701 Descriptive Bibliography and Textual Problems (4 cr.)**
- L705 Problems in Language, Literature, and Literacy (4 cr.)**
- L707 Studies in Literary Theory and Criticism (4 cr.)**
- L710 *Beowulf* (4 cr.)** P: G601. Critical reading of the text of the poem, with consideration of its relationship to other writings in Old English and the heroic tradition in literature.
- L711 Old English Literature (4 cr.)** P: G601 or equivalent.
- L712 Chaucer (4 cr.)** P: L612 or L613 or equivalent.
- L713 Middle English Literature (4 cr.)** P: L612 or L613 or equivalent.
- L715 English and Scottish Popular Ballads (4 cr.)** Student investigation of principal problems met in ballad scholarship. Special attention to textual relationships, dissemination, and unique qualities of genre.
- L721 Spenser (4 cr.)**

## English and Linguistics

Fort Wayne

Chairperson Professor Mary Helen Thuente

### Graduate Faculty

**Professors** Avon Crismore, Lynette Felber, Lawrence Friedman\* (Emeritus), Henry Kozicki (Emeritus), Mary Helen Thuente, James Woolf (Emeritus)

**Associate Professors** John P. Brennan,\* Rodney Farnsworth,\* Beverly Hume,\* Michael Kaufmann,\* John Minton,\* Michael O'Hear,\* Richard Ramsey,\* Arline Standley (Emerita), Chad Thompson,\* Hermine van Nuis\*

**Assistant Professor** Cynthia L. Moore\*

**Director of Graduate Studies** Associate Professor Richard Ramsey, Classroom-Medical Building 107, (219) 481-6771

**Degrees Offered** Master of Arts (M.A.) and Master of Arts for Teachers (M.A.T.)

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** To be regularly admitted to a master's program in English, you must have completed an undergraduate major or minor in English with a cumulative GPA of at least 3.0 (B) and a GPA of at least 3.0 in all English courses. In addition, all

applicants must earn a satisfactory score on the general aptitude section of the Graduate Record Examination. If these requirements are not met, an applicant may be admitted conditionally. Conditions might, for example, require completing prerequisite courses without credit toward the graduate degree, or maintaining a given GPA over first 6-12 credits earned in the program.

To receive the M.A.T., a candidate must hold at least provisional public-school certification in English. If such certification is lacking when a candidate enters the program, certification requirements must be fulfilled while the M.A.T. requirements are completed.

**Grades** A GPA of 3.0 must be maintained while in the program.

### Master of Arts Degree

**Course Requirements** At least 30 credit hours in courses administered by the department must be completed. (Courses are generally 3 credit hours.) Students must also demonstrate reading proficiency in an approved foreign language, normally by passing with a grade of A or B a 300-level

literature course offered by the Department of Modern Foreign Languages. (A graduate-level foreign language test provides an alternative for students who are prepared to read literature and criticism in an approved language.) Students must maintain a GPA of at least 3.0 in courses taken to fulfill degree requirements.

The total of 30 credit hours must include at least one course in professional scholarship, one course in critical theory, and one 700-level seminar. The total must include at least three courses in each of two of five available concentrations: (1) British literature before 1700, (2) British literature after 1700, (3) American literature, (4) English language and linguistics, (5) writing, rhetoric, and composition.

All degree requirements must be completed within five years of admission to the program.

**Foreign Language Requirement** Reading proficiency in French, German, Spanish, or other approved foreign language normally demonstrated by passing with a grade of A or B a 300-level literature course offered by the Department of Modern Foreign Languages in which the reading is done in the foreign language. A graduate-level foreign language test provides an alternative for students who are prepared to read literature and criticism in an approved language. A student should begin working on the proficiency requirement as soon as admitted, and continue to do so every semester until it is satisfied.

**Thesis** (3-6 credit hours) required of students who do not stand for the final examination; optional for others.

**Final Examination** Required of students who do not complete a thesis, a comprehensive written examination. See director of graduate studies for details.

### Master of Arts for Teachers Degree

**Prerequisite** Provisional public school certification in English. Students without provisional certification must fulfill certification requirements as well as requirements for the M.A.T.

**Course Requirements** To earn this degree, students must complete at least 36 credit hours of graduate-level courses; at least 24 credits must be in courses administered by the Department of English and Linguistics, including one course in linguistics or the English language, one course in composition theory or rhetorical theory, and one course in ethnic or minority literature. Up to 12 of the 36 required credit hours may be elected from approved courses administered by another department. If as students working toward

certification, some of your education courses may count as electives for the M.A.T.

**Foreign Language Requirements** None.

**Thesis** (3-6 credit hours) Required of students who do not complete at least one 700-level seminar.

### Courses

The following courses are taught in the Department of English and Linguistics at the Fort Wayne campus.

#### LITERATURE

**B501 Professional Scholarship in Literature** (3 cr.) Materials, tools, and methods of research.

**B502 Introduction to Literacy Studies and the Teaching of College English** (3 cr.) Historical and cognitive effects of writing, reading, and language use, and the implication of these effects for the teaching and study of literature and writing.

**B553 Studies in Literature** (3 cr.) Primarily for secondary-school and junior-college teachers of English. Emphasis on thematic, analytic, and generic study. May be repeated once for credit with a different topic.

**B605 Modern Approaches to Literature** (3 cr.) Survey of contemporary critical approaches, emphasizing methods of literary analysis.

**B609 History of Literary Criticism** (3 cr.) Survey of literary criticism and theory from Plato and Aristotle to 1960, including a variety of literary critics and theorists.

**B612 Chaucer** (3 cr.) Critical analysis of *The Canterbury Tales*, *Troilus and Criseyde*, and selected shorter poems.

**B613 Middle English Literature** (3 cr.) Selected themes and writers in English from 1100 to 1500.

**B622 Elizabethan Poetry** (3 cr.) Spenser and other major Elizabethan poets.

**B624 Elizabethan Drama and Its Background** (3 cr.) English drama, excluding Shakespeare, from the Middle Ages to 1642.

**B625 Shakespeare** (3 cr.) Critical analysis of selected texts.

**B627 English Poetry of the Early 17th Century** (3 cr.) Major poets and their intellectual milieu, 1600-1660.

**B628 Milton** (3 cr.) Poetry and prose, with special attention to *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*.

**B635 British Literature 1660-1790** (3 cr.) Poetry and nonfictional prose. Emphasis on Dryden, Pope, Swift, and Johnson and his circle.

**B637 Restoration and Eighteenth-Century Drama** (3 cr.) English drama from 1660 to 1800.

**B639 British Fiction to 1800** (3 cr.)

**B642 Romantic Literature (3 cr.)** Blake, Wordsworth, Coleridge, Byron, Shelley, Keats, and other writers of the British Romantic movement.

**B644 Victorian Literature (3 cr.)** Poetry and nonfictional prose from 1837 to 1900.

**B645 British Fiction 1800-1900 (3 cr.)**

**B648 20th-Century British Poetry (3 cr.)**

**B649 20th-Century British Fiction (3 cr.)**

**B651 American Literature 1800-1865 (3 cr.)**

**B652 American Literature 1865-1914 (3 cr.)**

**B654 American Literature since 1914 (3 cr.)**

**B655 American Fiction to 1900 (3 cr.)**

**B656 Twentieth-Century American Fiction (3 cr.)** American fiction since 1900, including such writers as Dreiser, Lewis, Fitzgerald, Hemingway, and Faulkner.

**B657 Recent Writing (3 cr.)** May be repeated once for credit with a different topic.

**B660 Studies in British and American Writers (3 cr.)** May be repeated once for credit with a different topic.

**B666 Survey of Children's Literature (3 cr.)**

Survey of literature for children and adolescents from the medieval period to the present.

**B668 Topics in Children's Literature (3 cr.)**

Study of a period, a genre, or a group of writers. May be repeated once for credit with a different topic.

**B673 Studies in Women and Literature (3 cr.)**

Women writers and literary representations of women.

**B675 Studies in American Ethnic and**

**Minority Literature and Culture (3 cr.)** May be repeated once for credit with a different topic.

**B680 Special Topics in Literary Study and**

**Theory (3 cr.)** Readings in sociological, political, psychological, and other approaches to literature. May be repeated once for credit with a different topic.

**B688 Irish Literature and Culture (3 cr.)** Study of one writer, a group of writers, a period, or a genre. May be repeated once for credit with a different topic.

**B695 Individual Readings in English (1-3 cr.)**

Independent study.

B699 Master's Thesis (3-6 cr.)

**B712 Chaucer (3 cr.)** P: ENG B612, B613, or equivalent.

**B725 Shakespeare (3 cr.)**

**B731 Milton (3 cr.)**

**B733 Restoration and Augustan Literature (3 cr.)**

**B739 British Fiction to 1800 (3 cr.)**

**B741 Romantic Literature (3 cr.)**

**B743 Victorian Literature (3 cr.)**

**B745 British Fiction 1800-1900 (3 cr.)**

**B780 Special Studies in Rhetoric and Composition (3 cr.)** May be repeated once for credit under a different topic.

#### LANGUAGE

**D501 Introduction to the English Language (3 cr.)** An introduction to the nature, structure, and development of the English language.

**D552 Linguistics and the Teacher of English (3 cr.)** Topics in applied English linguistics, intended for English teachers at all levels.

**D600 History of the English Language (3 cr.)** Survey of the evolution of the English language from its earliest stages to the present, with reference to its external history and to its phonology, morphology, syntax, and vocabulary.

**D601 Introduction to Old English (3 cr.)** Introduction to the phonology, morphology, and syntax of Old English and intensive reading of major prose and verse texts.

**L660 Stylistics (3 cr.)** Survey of traditional and linguistic approaches to the study of prose and poetic style. Attention to the verbal characteristics of texts, what they reflect about the author, and how they affect the reader.

#### Cross-Listed Courses

**Comparative Literature**

**C541 Modern Drama (4 cr.)**

**C586 Colloquium in Literature and the Other Arts (4 cr.)**

**C592 Genre Study in Film (3 cr.)**

**Film**

**K502 Genre Study in Film (3 cr.)**

**Linguistics**

**L430 Language Change and Variation (3 cr.)**

**L485 Topics in Linguistics (3 cr.)**

**L534 Linguistic Resources and the Teaching of English as a Second Language (TESOL) (3 cr.)**

**L535 TESOL Practicum (3 cr.)**

**L543 Syntactic Analysis (3 cr.)**

**L575 Introduction to Linguistic Theory (3 cr.)**

**L619 Language and Society (3 cr.)**

**L690 Advanced Readings in Linguistics (1-4 cr.)**

#### Environmental Programs

**School of Public and Environmental Affairs  
Bloomington**

**Departmental e-mail:** [speainfo@indiana.edu](mailto:speainfo@indiana.edu)

*Note: Be sure to specify which program you are interested in when sending mail.*

#### Departmental URL:

[http://www.indiana.edu/~speaweb/academics/e\\_index.html](http://www.indiana.edu/~speaweb/academics/e_index.html)

#### Graduate Faculty

Unless otherwise noted in parentheses, the faculty member's primary affiliation is within the School of Public and Environmental Affairs.

**Arthur E. Bentley Professors** Lynton Caldwell (Emeritus), Elinor Ostrom (Political Science)

**Distinguished Professors** Gary Hietjfe (Chemistry), Ronald Hites (Chemistry and Public and Environmental Affairs)

**Professors** Randall Baker, Simon Brassell (Geological Sciences), Keith Clay (Biology), Jeremy Dunning (Geological Sciences), George Ewing (Emeritus, Chemistry), Hendrik Haitjema, Theodore Miller, Emilio Moran (Anthropology), Craig Nelson (Biology), David Parkhurst, Lisa Pratt (Geological Sciences), J. C. Randalph, Edwardo Rhodes, Eugene Tempel (Education), Donald Whitehead (Emeritus, Biology), Jeffrey White, Daniel Willard (Emeritus)

**Associate Professors** Debera Backhaus, Chris Craft,\* C. Susan B. Grimmerd (Geography), Diane Henshel, Kerry Krutilla, Flynn Picardal, Ingrid Ritchie\* (I), Scott Robeson (Geography)

**Assistant Professors** Matthew Auer,\* Vicky Meretsky \* Sara Pryor (Geography), Hans Peter Schmid\* (Geography), Philip Stevens\*

An (I) after a faculty member's name indicates that the person teaches at Indiana University Purdue University Indianapolis

**Academic Advisor** Professor Hendrik Haitjema, SPEA 440, (812) 855-0563

**Doctoral Student Advisor** Professor J.C. Randalph, SPEA 447, (812) 855-4953

The environmental programs described below are cooperative undertakings of the School of Public and Environmental Affairs (SPEA), the College of Arts and Sciences, and the University Graduate School. They are administered by SPEA or the University Graduate School or both and provide courses and degree programs for students, not only in SPEA, but across the university.

**Degrees Offered** Dual master's degrees in environmental science (M.S.E.S.) and ecology/evolutionary biology (M.A.), dual master's degrees in environmental science (M.S.E.S.) and geological sciences (M.S.), dual master's degrees in environmental science (M.S.E.S.) and geography (M.A.) (all three dual degrees are offered jointly with SPEA), and the Doctor of Philosophy in environmental science. In

addition, SPEA offers the Master of Science in Environmental Science (M.S.E.S.), the Master of Public Affairs (M.P.A.) with a concentration in environmental policy and natural resources management, a combined M.S.E.S./M.P.A. degree, a combined M.S.E.S. and Doctor of Jurisprudence, and a combined M.P.A. and Doctor of Jurisprudence. The latter two combined degrees are offered jointly with the School of Law. For information regarding ecology and evolutionary biology, geography, and geological sciences, consult the respective department listings elsewhere in this bulletin; for information regarding the degrees offered exclusively or jointly by the School of Public and Environmental Affairs and the School of Law, see their respective bulletins or call (812) 855-2840.

### Dual Master Degrees

The student must apply to and be accepted by both the School of Public and Environmental Affairs and either the program in ecology and evolutionary biology of the Department of Biology, the Department of Geography, or the Department of Geological Sciences. The student must select a supervisory committee of at least three faculty members, representing both the School of Public and Environmental Affairs and either ecology and evolutionary biology, geography, or geological sciences.

**Requirements** A total of 60 credit hours that qualify the student for two master's degrees. For specific program requirements, see the departmental listings in this bulletin and the School of Public and Environmental Affairs Graduate Programs Bulletin.

### Doctor of Philosophy Degree

The doctoral program is a cooperative undertaking of the School of Public and Environmental Affairs and the Departments of Biology, Chemistry, Geography, and Geological Sciences. The program is administered by the School of Public and Environmental Affairs. The Ph.D. in environmental science is awarded by the University Graduate School.

The overall goal of this doctoral program is to provide a rigorous, comprehensive education in environmental science. The specific objectives of the program are: (1) to conduct advanced research and scientific analysis of environmental systems, events, and problems; (2) to further understanding of the nature and management of natural and human environments; and (3) to provide an opportunity for students and faculty members in several departments to engage in collaborative environmental research in an interdisciplinary mode.

**Admission** A student must apply to the School of Public and Environmental Affairs for doctoral studies. Those accepted for doctoral studies in the School of Public and Environmental Affairs will be recommended to the University Graduate School for formal admission into the Ph.D. program. Applicants to this program must have completed at least a bachelor's degree in science, mathematics, engineering, or a closely related field.

Applicants for admission are required to submit a statement of career goals and research interests (including identification of potential research advisors), official results of the Graduate Record Examination (GRE), official transcripts of all undergraduate and graduate work completed, and a minimum of three letters of recommendation. Students whose native language is not English must also submit results of the Test of English as a Foreign Language (TOEFL).

**Advisory Committee** As soon as possible after the student has enrolled, but not later than one semester after enrollment, an advisory committee for each student must be organized. Normally this committee will consist of at least four faculty members. At least two should be from the School of Public and Environmental Affairs; the others may be from one or more other departments. Membership of the advisory committee will be approved by the director of the Doctoral Program in Environmental Science and the dean of the University Graduate School. At least three members of the advisory committee must be members of the graduate faculty. The role of the advisory committee is defined below.

**Degree Requirements** The degree requires: (1) substantial knowledge in a primary environmental science concentration; (2) breadth in related environmental science and policy; (3) an understanding of research methods; (4) an in-depth knowledge of the dissertation topic; and (5) a dissertation that demonstrates the student's ability to analyze, explain, and interpret research clearly and effectively.

**Fields of Study** Each student will define an interdisciplinary principal field of study and describe it in a narrative statement. The narrative statement should (1) describe the student's previous educational experiences, (2) discuss the student's research goals and career objectives, and (3) outline a program of course work that lies within the student's proposed field of study. This document must be approved by the student's advisory committee and will then serve as the student's plan for fulfilling the field of study course work requirements described below.

Each student also will be required to outline a program of course work that fulfills the requirements for breadth in environmental science and policy. The breadth requirement may be fulfilled by using a wide spectrum of environmentally related courses, including other science courses, or if appropriate, course work from areas such as anthropology, economics, law, and management. In addition, each student is required to prepare a statement of activities/course work to assure strong grounding in the appropriate research methodologies to embark on their dissertation research. Normally these will include computer applications, areas of applied mathematics such as statistics and mathematical modeling, and technical skill areas such as electronics and analytical chemical techniques.

The research undertaken by the student will be interdisciplinary in nature rather than specifically disciplinary as in a traditional science department. Because a knowledge of the basic sciences is necessary to understanding environmental problems and the application of that knowledge is necessary for the development of solutions to those problems, the research may be primarily basic, primarily applied, or some mixture of both.

**Course Requirements** The exact nature and amount of course work in each of three areas—(1) principal field of study, (2) breadth in environmental science and policy, and (3) research methods—will be determined by the advisory committee after review and approval of the student's plan of study in each of these areas. Selection of specific courses will focus on obtaining (1) adequate knowledge for qualifying examinations, (2) appropriate preparation for a research project, and (3) a mixture of courses that meet the individual professional goals of the student.

The Ph.D. degree requires the completion of at least 90 credit hours in advanced study and research beyond the bachelor's degree. A student must complete a minimum of 15 credit hours of advanced course work in their specific field of study and a minimum of 15 credit hours of advanced course work in environmental science and policy. Students must also complete a minimum of 30 credit hours of research, normally taken as SPEA E625 or SPEA V890 and/or research methods course work. The student, with approval of the advisory committee, should complete some combination of additional course work and research credit sufficient to meet the 90 credit hour requirement.

Students should note that all 30 credit hours of advanced course work, if properly selected, and 6 credit hours of research, may be applied toward the Master of Science in Environmental

Science (M.S.E.S.) degree. With an additional 12 credit hours of approved course work, a student may be awarded the M.S.E.S. degree while completing the requirements for the Ph.D. degree in environmental science.

Completion of the M.S.E.S. degree as part of this doctoral program is not a requirement; however, this option may be appropriate for some students.

**Qualifying Examinations** Before a student is admitted to candidacy, all requirements determined by the advisory committee must be met and the qualifying examinations passed. A student who fails qualifying examinations may retake them only once. The decision to admit a student to doctoral candidacy will be made by the advisory committee, which will evaluate the student's performance in a written examination, research proposal, and oral examination.

**Written Examination** This examination, should be taken by the end of the student's fifth semester in the Ph.D. program. The exam focuses on topics covered by the student's course work and relates to the student's research interests. The examination is written and graded by the student's advisory committee. The written examination is graded as pass, conditional pass, or fail.

**Research Proposal** No later than the end of the fifth semester and typically prior to the scheduling of the student's written examination, the student should submit a written research proposal for review by the advisory committee. The proposal should be documented, stating clearly a research objective, the approach to be taken, and the significance of the work.

**Oral Examination** Each candidate will be examined orally by the advisory committee. The oral examination will be comprehensive in nature and also will cover the student's research proposal.

**Research Committee** Upon successful completion of the qualifying examination, a research committee will be formed. Normally this committee will consist of at least four faculty members. At least two should be from the School of Public and Environmental Affairs; the others may be from one or more other departments. The director of the Doctoral Program in Environmental Science will recommend the student's research committee to the dean of the University Graduate School. At least three members of the research committee must be full members of the graduate faculty.

**Dissertation** A dissertation is required and must be of sufficient value to warrant publication. The dissertation must represent a



substantial research effort, both in quality and quantity. A public presentation of the dissertation research is required. The dissertation must be defended before and approved by the research committee.

### Ph.D. Minor in Environmental Studies

(12 credit hours)

Students in Ph.D. programs at Indiana University may, with the consent of their committee, choose environmental studies as an outside minor. The minor is flexible and is usually designed by students in accordance with their needs.

#### Requirements

- The candidate must secure a faculty advisor in consultation with the director of the Ph.D. in Environmental Science Program. The advisor may not be from the candidate's major department. The candidate's advisor will serve as the representative in all examinations or other requirements of the candidate's Ph.D. program that relate to the minor. The advisor will decide on the character of the examination, if any, in the minor field and will certify that the candidate has met the requirements of the minor.
- The candidate must take at least 12 credit hours of graduate-level courses related to environmental studies. These courses must be outside the candidate's major department. The choice of courses should be made in consultation with the candidate's advisor and must be approved by the director of the Ph.D. in Environmental Science Program. Acceptance of the proposed minor will be based on two criteria: (a) the courses must have a direct relationship to environmental studies and (b) the courses must not normally be required as part of major or tool-skill options in the student's major department. Courses in the minor program should be selected according to the student's interest. Students majoring in areas other than the natural sciences, for example, may wish to consider course offerings in the natural sciences; similarly, natural science students should consider course offerings in the social and behavioral sciences.
- A minimum grade point average of 3.0 (B) must be attained in the courses used for the minor.

#### Courses

For descriptions of courses offered by the School of Public and Environmental Affairs, see the School of Public and Environmental Affairs Graduate Programs Bulletin.

## Ethnomusicology

College of Arts and Sciences  
Bloomington

Director Professor Ruth H. Stone

Departmental URL:

<http://www.indiana.edu/~ethnomu>

### Graduate Faculty

**Professors** George List (Emeritus, Folklore), Portia Maulsby (Afro-American Studies, Folklore), Lewis Rowell (Music), Ruth M. Stone (Folklore, Music)

**Associate Professors** Mellonee Burnin (Afro-American Studies, Folklore), Gloria Gibson (Afro-American Studies, Folklore)

**Assistant Professor** Sue Tuohy\* (East Asian Languages and Cultures, Folklore)

### Ph.D. Minor in Ethnomusicology

The Ethnomusicology Program offers an interdepartmental doctoral minor that enables students to take courses in ethnomusicology from several departments. Students wishing to enroll in the program must first consult with the program director. An advisor will be assigned to each student, taking into consideration the academic interests of each individual.

Graduate students may pursue a

"concentration" in ethnomusicology at the M.A. and Ph.D. levels through the Department of Folklore; consult the requirements for that department.

**Course Requirements** Four approved courses, for a total of 12 credit hours, including two of the four core courses (Folklore F523, F714, F740, and F794) and two courses chosen from the others listed below. All courses first must be approved by the student's ethnomusicology advisor. With the consent of the advisor, courses other than those listed below may be chosen.

**Grades** A minimum of a B (3.0) is required in each course that is to count toward the minor.

**Examination** The student's advisor from the ethnomusicology faculty must be invited to participate in both the written and oral portions of the qualifying examination. The program director may, however, waive the written portion of the examination providing the student's performance in the program has been of sufficiently high quality.

#### Courses

**Afro-American Studies**

**A590 Special Topics in Afro-American Studies (Topic: Seminar in Black Religious Music)** (3 cr.)

**A594 Black Music in America** (3 cr.)  
**A597 Popular Music of Black America** (3 cr.)

#### Anthropology

**E305 Introduction to Ethnomusicology** (3 cr.)  
**E661 Seminar in Ethnomusicology I** (3 cr.)  
**E662 Seminar in Ethnomusicology II** (3 cr.)

#### Folklore

**F523 Fieldwork in Folklore/Ethnomusicology** (3 cr.)  
**F600 Asian Folklore/Folk Music** (3 cr.)  
**F609 African and Afro-American Folklore/Folk Music** (3 cr.)  
**F617 Middle East Folklore/Folk Music** (3 cr.)  
**F625 North American Folklore/Folk Music** (3 cr.)

**F635 European Folklore/Folk Music** (3 cr.)

**F638 Latin American Folklore/Folk Music** (3 cr.)

**F640 Native American Folklore/Folk Music** (3 cr.)

**F651 Pacific Folklore/Folk Music** (3 cr.)

**F714 Paradigms of Ethnomusicology** (3 cr.)

**F722 Colloquium in Theoretical Folklore/Ethnomusicology** (3 cr.)

**F731 Archiving Principles and Bibliography in Folklore and Ethnomusicology** (3 cr.)

**F740 History of Ideas in Folklore/Ethnomusicology** (3 cr.)

**F792 Traditional Musical Instruments** (3 cr.)

**F794 Transcription and Analysis in Folklore/Ethnomusicology** (3 cr.)

**F803 Practicum in Folklore/Ethnomusicology** (1-3 cr., 6 cr. max.)

**F804 Special Topics in Folklore/Ethnomusicology** (1-3 cr.)

#### Music

**M596 Art Music of Black Composers** (3 cr.)

**T561 Music Theory (Topics: Art Musics of Asia; Art Music of India)** (3 cr.)

## Film Studies

College of Arts and Sciences

Bloomington

**Director** Associate Professor Barbara Klingner  
**Departmental e-mail:** [klingner@indiana.edu](mailto:klingner@indiana.edu) or [munsond@indiana.edu](mailto:munsond@indiana.edu)

### Graduate Faculty

**Distinguished Professor** Peter Bondanella (Comparative Literature, French and Italian)

**Chancellors' Professor** James Naremore (English, Communication and Culture)

**Professors** Ingeborg Hoestery (Comparative Literature, German), Sumie Jones (Comparative Literature, East Asian Languages and Cultures), Darlene Sadlier (Spanish and Portuguese)

**Associate Professors** Christopher Anderson (Communication and Culture), Michael Curtin (Communication and Culture), Gloria Gibson (Folklore and Ethnomusicology), Barbara Klingner (Communication and Culture), Yingjin Zhang (East Asian Languages and Cultures)

**Assistant Professors** Nicola Evans\* (Communication and Culture), Joan Hawkins\* (Communication and Culture)

**Graduate Advisor** Associate Professor Barbara Klingner, Ballantine Hall 306; (812) 855-1072

### Ph.D. Minor in Communication and Culture with a Concentration in Film Studies

**Requirements** A minimum of 15 credit hours in the Department of Communication and Culture. When they are cross- or joint-listed with Communication and Culture, courses may also include those offered by other departments, as listed below.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the minor.

#### Courses

**Communication and Culture**

**C503 Introduction to Media Theory and Aesthetics** (3 cr.)

**C506 Methods of Media Research** (3 cr.)

**C552 Media Institutions and the Production of Culture** (3 cr.)

**C560 Motion Picture Production** (3-4 cr.)  
**C561 Intermediate Motion Picture Production** (4 cr.)

**C562 The Screenplay** (4 cr.)

**C594 History of European and American Films II** (4 cr.)

**C596 National Cinemas** (3 cr.)

**C606 Media Criticism** (3 cr.)

**C620 Media, Culture, and Politics** (3 cr.)

**C652 Globalization of Media** (3 cr.)

**C691 Authorship in the Cinema** (4 cr.)

**C792 Film History and Theory** (4 cr.)

**C793 Seminar in Media Studies** (3 cr.)

**Comparative Literature**

**C692 Comedy in Film and Literature** (4 cr.)

**C693 Film Adaptations of Literature** (4 cr.)

**C790 Studies in Film and Literature** (4-12 cr.)

**East Asian Languages and Cultures**

**E533 Studies in Chinese Cinema** (3 cr.)



**English**  
**L780 Special Studies in English and American Literature** (4 cr.) Topics on film.

**Italian**

**M455 Readings in the Italian Cinema** (3 cr.)  
May be repeated once for credit.

**M500 Seminar in Italian Cinema** (3 cr.)

**Telecommunications**

**R540 Special Projects in Telecommunications**  
(cr. arr.)

## Fine Arts

**College of Arts and Sciences**  
**Bloomington**

**Director** Professor Jeffrey A. Wolin

**Departmental URL:**  
<http://www.fa.indiana.edu/~fina>

### Graduate Faculty

**Distinguished Professors** Bruce Cole,  
Rudolph Pozzatti (Emeritus)

**Rudy Professor of Fine Arts** Roy Sieber  
(Emeritus)

**Professors** Robert Barnes (Emeritus), Sarah Burns, Tom Coleman (Emeritus), Molly Farries, Barry Gealt, John Goodheart, William Itter, Jerald Jacquard, Janet Kennedy, W. Eugene Kleinbauer, Randy Long, Marvin Lowe (Emeritus), Ronald Markman (Emeritus), Karl Martz (Emeritus), Patrick McNaughton, Bonnie Sklarski, Budd Stahaker, Joan Sterrenburg, Jeffrey Wolin

**Associate Professors** Edward Bernsstein, Wendy Calman, Jean-Paul Darriau (Emeritus), Adelheid Gealt, Reginald Heron (Emeritus), Susan Nelson, James Reidhaar, Georgia Strange

**Assistant Professors** Michelle Facos

**Senior Scholar** Kathleen Foster

**Associate Director** Diane Pelrine\*

**Degrees Offered** Master of Arts (History of Art), Master of Arts for Teachers, Master of Fine Arts (Studio), and Doctor of Philosophy (History of Art)

### Special School Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree (History of Art)

**Admission Requirements** Bachelor's degree with a major in the history of art or its equivalent. GPA of 3.0 expected. Appropriate level of achievement on the Graduate Record Examination General Test. Three letters of recommendation.

**Grades** A minimum grade point average of 3.5 must be maintained.

**Course Requirements** A minimum of 30 credit hours. No fewer than three seminars in two areas; four lecture courses at the 400 and 500 level in no fewer than three areas, at least two of which must be in Western art; the research sources course (A575).

**Foreign Language Requirement** Reading proficiency in one language; usually German or French is selected. Proficiency must be demonstrated by the beginning of the third semester of study.

**Essay** Required.

### Master of Arts for Teachers Degree

The M.A.T. degree is offered in several studio areas of the School of Fine Arts. Contact the faculty to receive M.A.T. enrollment approval.

**Admission Requirements** Bachelor's degree with a major in art; at least 24 credit hours in undergraduate fine arts courses; portfolio of work showing reasonable skill and creative ability. Students without certification must fulfill certification requirements as well as requirements for the M.A.T.

**Course Requirements** A total of 36 graduate level credit hours, of which 20 credit hours must be in studio courses approved by student's advisor and 12 credit hours in art history (in at least two areas). Only those courses listed in this University Graduate School Bulletin have been approved for graduate credit.

**Final Examination** Oral: review of studio work by the student's committee.

**Residence** Many students attempt to complete this degree in summer sessions only. The department strongly recommends that at least one semester should be completed on the Bloomington campus during the regular academic year.

### Dual Master of Arts and Master of Library Science Degrees

This program permits the student to coordinate a Master of Arts degree in fine arts (History of Art major) with a Master of Library Science degree. The dual program requires the completion of 60 credit hours as opposed to the 70 credit hours that would have to be taken if the degrees were pursued independently.

**Admission Requirements** Students must apply for admission to both the School of Fine Arts and the School of Library and Information Science and meet the admissions requirements established by each.

**Requirements** Thirty (30) credit hours in the School of Fine Arts, including A500, A575, and no fewer than two seminars in two areas and

four lecture courses at the 400 and 500 level in no fewer than three areas, at least two of which must be in Western art. Thirty (30) credit hours are required in the School of Library and Information Science, including L503, L505, L507, L520, L524, L528, L596, L623, L630, at least one elective chosen from L526, L570, and L583.

### Master of Fine Arts Degree (Studio)

**Admission Requirements** Bachelor's degree with a fine arts major in studio courses. Portfolio of work (photographs or color slides acceptable) showing a high degree of skill and creativity. Fall admission only. Applications are due January 15.

**Grades** A grade point average of 3.0 (B) must be maintained.

**Course Requirements** A total of 60 credit hours at the graduate level with emphasis in one chosen area of studio work. Only those courses listed in this bulletin have been approved for graduate credit. The distribution of course work, including art history courses where appropriate, to be determined in consultation with the student's major advisor.

**Thesis** An exhibition of a group of works of art in the chosen studio area preceded by an oral qualifying examination, which will be given at least one semester before the exhibition. The qualifying examinations are designed to test the ability of students to speak articulately about the ideas and directions of their work, their ability to express themselves clearly in analyzing other works of art, and their general knowledge of the history of art.

**Periodic Review** Student's eligibility to continue in the M.F.A. program will be subject to a periodic review of their progress.

**Residence** This degree requires a minimum residency of two academic years. Summer residency will not be counted in the fulfillment of this requirement.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours including a core of four lecture courses and three seminars (28 credit hours) in the major field. 16 credit hours in an inside minor, 9-12 credit hours in a second minor. An additional 18 credit hours of art history courses and seminars, or in some cases courses from other departments, will be chosen in consultation with student's major field advisor. Up to 16 credits may be taken as dissertation credit hours. The major fields are ancient, Byzantine and medieval, Renaissance and baroque, modern (nineteenth and twentieth centuries), East Asian, and African/Oceanic/pre-Columbian art. A minimum of three seminars in the major field is required. The 16 credit hours for the inside minor must include a minimum of two

seminars (600 level); reading courses and studio courses do not satisfy the inside minor requirement. The second minor may be taken in another department, which defines its own requirements (usually 9-12 credit hours), or in the history of art (12 credit hours).

**Grades** A minimum grade point average of 3.5 is required in the major field and the departmental minor(s).

**Foreign Language Requirement** Reading proficiency in two languages (usually French and German). An additional foreign language may be required by the major field advisor.

**Qualifying Examination** Three written examinations in the major field; oral examination at discretion of department.

**Final Examination** Oral, covering the dissertation.

**Ph.D. Minor in Art History** A Ph.D. minor in art history is available to students outside the School of Fine Arts. Normally, it consists of a minimum of two graduate-level courses and one seminar in a single area (12 credit hours) or four graduate-level courses (16 credit hours). All programs must be determined in consultation with the art history graduate advisor. A grade point average of 3.5 is required.

### Courses

With the consent of the instructor, all 600-level courses listed below may be repeated twice (for a maximum of 12 credit hours).

### ART HISTORY

#### Ancient

**A410 Topics in Ancient Art** (4 cr.) Special topics in the history and study of ancient and Classical art. May be repeated with different topics for a total of six credits.

**A411 (CLAS C411) Art and Archaeology of Anatolia** (4 cr.)<sup>1</sup>

**A412 (CLAS C412) The Art and Archaeology of the Prehistoric Aegean** (4 cr.)<sup>1</sup>

**A413 (CLAS C413) The Art and Archaeology of Greece** (4 cr.)<sup>1</sup>

**A414 (CLAS C414) The Art and Archaeology of Rome** (4 cr.)<sup>1</sup>

**A416 Greek Architecture** (4 cr.)

**A418 Roman Architecture** (4 cr.)

**A518 Roman Sculpture** (4 cr.) Critical analysis of historical reliefs, portraiture, and sarcophagi.

**A519 Roman Painting** (4 cr.) Critical analysis of Roman painting from second century B.C. through early fourth century A.D.

### Classics

**C419 The Art and Archaeology of Pompeii** (4 cr.)

<sup>1</sup>Three (3) credits for undergraduates.

- A513 Greek Vase Painting (4 cr.)
- A514 Greek Sculpture: Fifth Century (4 cr.)
- A516 Greek Sculpture: Hellenistic (4 cr.)
- A517 Early Italian and Etruscan Art (4 cr.)
- A611 Problems in Prehistoric Aegean Archaeology (4 cr.)
- A612 Problems in Greek Archaeology (4 cr.)  
Sources for the history of Greek art and civilization of various periods.
- A613 Problems in Greek Architecture (4 cr.)
- A614 Problems in Greek Sculpture (4 cr.)
- A616 Problems in Roman Art (4 cr.)
- Medieval
- A421 Early Christian Art (4 cr.)
- A423 Romanesque Art (4 cr.)
- A424 Gothic Art (4 cr.)
- A425 Byzantine Art (4 cr.)
- A520 Methods in the Study of Medieval Art (4 cr.)
- A522 Early Medieval Painting (4 cr.) Survey of the major schools of monumental and miniature painting during the early medieval period.
- A523 Early Christian Architecture (4 cr.) Intensive investigation of secular and church architecture in the Mediterranean from the Tetrarchy to Iconoclasm in terms of its relationship to topography, urban development, functions, liturgical planning, and related types of monuments.
- A526 The Medieval City (4 cr.) Examines the cities of Western Europe and the Islamic and Byzantine worlds from the perspective of the institutions of the city, and the art and architecture they generated, including houses, fortifications, churches, town halls, guild halls, and markets. Medieval representations of the city will also be explored.
- A527 Formation of Islamic Art (4 cr.) Surveys Islamic art and culture in its formative period from the seventh through the fourteenth centuries. Representative works will be examined from all media. A major goal of the class will be to distinguish the unique characteristics of Islamic art despite its diverse sources and tremendous regional variations.
- A621 Problems in Early Christian Art (4 cr.) Selected topics in early Christian art.
- A622 Problems in Early Medieval Art (4 cr.) Selected topics in early medieval art.
- A623 Problems in Romanesque Art (4 cr.) Discussion of the major problems of eleventh- and twelfth-century sculpture; knowledge of French and one other foreign language necessary.
- A624 Problems in Early Gothic Art (4 cr.)
- A625 Problems in Late Gothic Art (4 cr.)
- A626 Problems in Byzantine Art (4 cr.)
- Renaissance and Baroque
- A430 Trecento Italian Painting (4 cr.)
- A433 Seventeenth-Century Art in Rome (4 cr.)
- A436 Italian Art of the Fifteenth Century (4 cr.)
- A437 Early Netherlandish Painting (4 cr.)
- A531 Fifteenth- and Sixteenth-Century Italian Architecture (4 cr.) Validity of concepts of High Renaissance and Mannerism and their application to architecture.
- A537 Selected Topics in Northern Painting (4 cr.)
- A632 Problems in Early Italian Painting (4 cr.) Selected topics in Italian painting of the thirteenth and fourteenth centuries.
- A633 Problems in Italian Art of the Fifteenth Century (4 cr.)
- A634 Problems in Italian Art of the Sixteenth Century (4 cr.)
- A635 Problems in Italian Art of the Seventeenth Century (4 cr.)
- A637 Problems in Early Netherlandish Painting (4 cr.)
- A638 Problems in Sixteenth-Century Art outside Italy (4 cr.)
- A639 Problems in Seventeenth-Century Art outside Italy (4 cr.)
- Modern
- A440 Nineteenth-Century Painting I (4 cr.)
- A441 Nineteenth-Century Painting II (4 cr.)
- A442 Twentieth-Century Art 1900-1924 (4 cr.)
- A445 American Art to 1860 (4 cr.)
- A446 American Art 1860-1900 (4 cr.)
- A449 Twentieth-Century Art 1925-1970 (4 cr.)
- A540 Topics in Modern Art (4 cr.) Special topics in the history and study of nineteenth- and twentieth-century European and American Art. May be repeated twice for credit when topic varies.
- A542 American Painting from the Revolution to World War I (4 cr.)
- A544 Russian Art 1700 to Present (3 cr.) Survey of Russian art concentrating on the period from 1700 to the present. In dealing with Russian realism, turn-of-the-century art, and the Russian avant-garde, the course focuses on changing concepts of national identity and on the social role of art.
- A545 Post-Impressionism and Symbolism (4 cr.) P. consent of instructor. The major Post-Impressionist artists and the art of the 1890s: Symbolism, the Nabis, Art Nouveau, the Secession movements.
- A546 Roots and Revolution: Early Twentieth-Century Mexican Art (4 cr.) Critical analysis of 1890 to 1950 in relation to political and cultural phenomena.
- A547 Dada and Surrealism (4 cr.) Stylistic peculiarities, literary affinities, psychological
- and philosophical concerns of Dada and Surrealist art will be discussed, with emphasis on the historic position of this art vis-à-vis other modernist movements, especially Cubism and Abstract Expressionism. Works of key figures will be examined, including Duchamp, Picabia, Ernst, Arp, Miró, Tanguy, Magritte, and Matta.
- A548 American Architecture (4 cr.) Surveys American architecture from the colonial period to the late twentieth century, including public, commercial, and domestic design, with emphasis on historical context and the role of architecture as signifier of social, cultural, and political ideologies.
- A549 Modernism and Anti-Modernism in American Art, 1900-1945 (4 cr.) Surveys painting, sculpture, photography, design, and commercial art. Topics include the urban realism of the Ash Can School; the cult of the machine; regionalist painting and the American heartland; the expressionist landscape; and surrealism, American style.
- A550 History of Photography (4 cr.) Surveys the history of photography from its beginning to the mid-twentieth century, with focus on theoretical issues as well as the cultural and social contexts of photography and its practices.
- A641 Problems in Romantic Art (4 cr.)
- A643 Problems in American Art (4 cr.)
- A644 Problems in French Art (4 cr.)
- A645 Problems in Late Nineteenth- and Early Twentieth-Century European Art (4 cr.)
- A646 Problems in Twentieth-Century European Art (4 cr.)
- A647 Problems in Contemporary European and American Art (4 cr.)
- Art of Africa, Oceania, and Pre-Columbian America
- A452 Art of Pre-Columbian America (4 cr.)
- A453 Art of Sub-Saharan Africa I: Art of Africa's Western Sudan (4 cr.)
- A454 Art of Sub-Saharan Africa II: Arts of the West African Coast (4 cr.)
- A551 Art, Craft, and Technology in Sub-Saharan Africa (4 cr.)
- A556 Art of Central Africa (4 cr.) Analysis of visual art traditions of central Africa, focusing primarily on Zaire, but also including arts from Cameroon, Gabon, Congo, the Central African Republic, and Angola.
- A650 Problems in African Art (4 cr.)
- Asia
- A560 Special Studies in Chinese Art (4 cr.) Topics vary; each is focused on a specific aspect or issue in Chinese art, studied in the context of social and intellectual history. Readings and discussion will emphasize
- current debates in the field and approaches to the material. May be repeated twice for credit.
- A564 Art and Archaeology of Early China (4 cr.) Chinese art and material culture from prehistoric times through the Han dynasty (to ca. 200 A.D.), with particular attention to major archaeological discoveries. Topics include the relationships between art, ritual, and politics; changing beliefs about society and the spirit world as seen in the archaeological record; regional cultures and traditions; and problems in methodology and interpretation.
- A566 Early Chinese Painting (4 cr.) Chinese painting and pictorial art from the Six Dynasties through the Song Dynasty (ca. 200-1300 A.D.). Topics include figure and narrative painting; the culture of landscape, from mountains to gardens; the iconography of flowers, birds, and other small motifs drawn from nature; institutional and private patronage; and the relationships between painting, poetry, and calligraphy.
- A567 Later Chinese Painting (4 cr.) A history of Chinese painting from the Yuan Dynasty (1279-1368) to the twentieth century: art and political protest, the culture of amateur painting, court and professional painters, the development of regional styles, painting as social exchange and interaction, patronage and collecting, and artists' writing on the themes of nature, style, and self-expression.
- A662 Problems in Chinese Painting (4 cr.) Art Theory
- A471 Art Theory I (4 cr.) Art theory from antiquity through the thirteenth century. Topics include Classical Greek and Roman art theory/early Christian art theory or Medieval art theory: East and West. May be repeated with a different topic for a maximum of eight credits.
- A472 Art Theory II (4 cr.) Art theory of the late Middle Ages and the Renaissance. Topics include fourteenth- and early fifteenth-century art theory in Italy and fifteenth-century art theory in Florence. May be repeated with a different topic for a maximum of eight credits.
- A473 Art Theory III (4 cr.) Art theory of the seventeenth and eighteenth centuries. Topics include eighteenth century background in Romanticism: England and Germany or Classicism and Romanticism; 1750-1850 England and France. May be repeated with a different topic for a maximum of eight credits.
- A474 Art Theory IV (4 cr.) Art theory of the nineteenth and twentieth centuries. Topics include romanticism-realism in France, Baudelaire and romantic theory in France, nineteenth-century German art theory or late nineteenth-century French art theory. May be repeated with a different topic for a maximum of eight credits.
- A671 Problems in Art Theory I (4 cr.) Problems in art theory from antiquity through the thirteenth century.

**A672 Problems in Art Theory II (4 cr.)**  
Problems in art theory of the late Middle Ages and the Renaissance.

**A673 Problems in Art Theory III (4 cr.)**  
Problems in art theory of the seventeenth and eighteenth centuries.

**A674 Problems in Art Theory IV (4 cr.)**  
Problems in art theory of the nineteenth and twentieth centuries.

**General**

**A458 Topics in the Ethnographic Arts (4 cr.)**  
**A476 History of the Print (4 cr.)**

**A480 Russian Art (3 cr.)**

**A495 Readings and Research in Art History (1-4 cr.)**

**A500 Historiography of Western Art (4 cr.)**

**A575 Research Sources in Art History (2 cr.)**  
Required of all entering M.A. degree

candidates. Introduction to basic bibliography and literature of the history of art.

**A580 Topics in Spanish Art (4 cr.)** Special topics in the history and study of Spanish art in various centuries. May be repeated twice with different topics.

**A590 Museum Studies (4 cr.)** Designed to utilize the resources of the Indiana University Art Museum for academic research. Topics vary and include cataloging, technical examination, and organizing exhibitions. May be repeated for credit when topic varies.

**A595 Master's Essay Research (1-4 cr.)**  
Readings and research for the M.A. essay in the history of art. The essay is required; enrollment in the course is optional.

**A690 Burke Seminar in the History of Art (1-4 cr.)** A seminar conducted by a visiting professor in conjunction with a member of the art history faculty. The topic, format, and length of the seminar will vary. May be repeated, with different topics, for a maximum of 8 credits.

**A775 Advanced Readings and Research (cr. arr.)**<sup>2</sup>

**A778 Tutorial using Infrared Reflectography (2-6 cr.)** P: consent of instructor. Individual instruction, readings, and problems of interpretation related to the use of infrared reflectography in the technical examination of works of art.

**A779 Directed Field Work (cr. arr.)**<sup>3</sup>  
Specialized research in museums and libraries or archaeological sites, in fields closely related to student's doctoral dissertation.

**A780 Fieldwork Using Infrared Reflectography (2-6 cr.)** P: consent of instructor. Individual instruction, readings, and problems of interpretation related to fieldwork using infrared reflectography in the gathering of data for specific research projects.

**A879 Doctoral Dissertation (cr. arr.)**<sup>3</sup>

<sup>1</sup> May be repeated for a total of 12 credit hours.

<sup>2</sup> Maximum of 8 credit hours.

<sup>3</sup> May be repeated for a total of 16 credit hours.

**Graphic Design**

**S451 Graphic Design Problem Solving (cr. arr.)**<sup>1</sup>

**G551 Graduate Design (cr. arr.)** Graphic design as an integral element of all visual communication media. Self-defined and assigned study to assure as wide as possible an exposure to the problem-solving process.

**S559 Graphic Design Advanced Seminar: Topics in History, Theory, and Criticism (3-5 cr.)**

Provides background on major graphic design movements, the design of the alphabet and type styles, the use of tools (printing press, wood cut, engraving, camera, airbrush, computer). Social and political forces such as industrial development and nationalism will be considered. Writings of theorists and historians will be reviewed.

**U750 Graphic Design Advanced Studio Projects (1-12 cr.)**

**G850 M.F.A. Thesis in Graphic Design (1-12 cr.)**

**Hand Papermaking**

**S417 Hand Papermaking I (3 cr.)**

**S418 Hand Papermaking II (1-3 cr.)**

**Jewelry Design and Silversmithing III (cr. arr.)**<sup>1</sup>

**S581 Graduate Jewelry Design and Silversmithing (cr. arr.)** P: S481. Creative designing and drawing of two- and three-dimensional forms for jewelry, hollowware, flatware, enameling and casting (e.g., bracelets, pins, necklaces, rings, chains); stone setting. Experiments in texture and repoussé; filigree, gilding, and granulation. Stretching, krumpling, coursing, and seaming techniques in silversmithing. Cloisonné, champlévé, plique-à-jour, and sgraffito enameling.

**S582 Graduate Seminar in Jewelry Design and Silversmithing (1 cr.)** Weekly critique, assigned readings, discussions, slide lectures, and special research projects for graduate students enrolled in the M.F.A. program in jewelry design and silversmithing.

**U780 Metalsmithing Advanced Studio Projects (1-12 cr.)**

**G880 M.F.A. Thesis in Metalsmithing and Jewelry Design (1-12 cr.)**

**Painting**

**S431 Painting III (cr. arr.)**<sup>1</sup>

**S438 Water Media (cr. arr.)**

**S530 Graduate Non-Source Drawing Seminar (1-6 cr.)** Drawing away from a specific source. Students are encouraged to generate their own sources and technical choices under close faculty supervision. Content and composition are stressed, as is craftsmanship. (Open to M.F.A. painters only.)

**S531 Graduate Painting (cr. arr.)** Independent work in painting for candidates for the Master of Fine Arts degree majoring in painting.

**S532 Graduate Painting Seminar (1 cr.)**  
Weekly critical review of student work. (Open to M.F.A. painters only.)

**S535 Graduate Drawing Seminar (1-3 cr.)**  
General seminar on source drawing. Sessions from the model will be made available.

Examples of drawing from the history of art are used in reference to each student's particular stylistic bias. Stylistic development as well as composition are stressed along with a concentration on craftsmanship.

**U730 Painting Advanced Studio Projects (1-12 cr.)**

**G830 M.F.A. Thesis in Painting (1-12 cr.)**

**Photography**

**S491 Advanced Photography II (cr. arr.)**<sup>2</sup>  
P: S392 and consent of instructor. May be repeated for a total of 20 credit hours.

**S591 Graduate Photography (cr. arr.)**

**S595 Graduate Photography Seminar (4 cr.)**  
Primarily for graduate students in photography. Oral and written study of significant topics in the history, criticism, and theory of photography. Topic varies.

**U790 Photography Advanced Studio Projects (1-12 cr.)**

**G890 M.F.A. Thesis in Photography (1-12 cr.)**

**Printed and Dyed Textile Design (cr. arr.)**<sup>2</sup>

**S511 Graduate Textile Design (Printed) (cr. arr.)** Variety of silkscreen procedures, blockprinting, batik, tie-dye, and commercial dyeing as these apply to design for yardage and to compositional hangings. Emphasis on drawing, two-dimensional design, and creative exploration in mixed printing and dyeing media. Research in the history of textiles.

**U720 Textiles Advanced Studio Projects (1-12 cr.)**

**G820 M.F.A. Thesis in Textiles (1-12 cr.)**

**Printmaking**

**S441 Printmaking III Intaglio (cr. arr.)**<sup>2</sup>

**S443 Printmaking III Lithography (cr. arr.)**<sup>2</sup>

**S444 Printmaking III Silkscreen (cr. arr.)**<sup>2</sup>

**S541 Graduate Printmaking (cr. arr.)** Open to M.F.A. printmaking students only.

**S545 Graduate Printmaking Seminar (3 cr.)**  
Deals with both theoretical and practical issues in contemporary art. Discussions will be based on selected readings, including relevant suggestions from the participants. Students will make slide presentations on the influences

and development of their work as well as a collaborative project.

**U740 Printmaking Advanced Studio Projects** (1-12 cr.)

**G840 M.F.A. Thesis in Printmaking** (1-12 cr.)  
Sculpture

**S471 Sculpture III** (3-6 cr.)<sup>2</sup>

**S571 Graduate Sculpture** (cr. arr.)  
Independent studio work and regular meetings with course instructor. Requires completed projects according to credit load.

**S572 Graduate Sculpture Seminar** (1 cr.)  
Address issues of relevance to working artists including political, social, and economic factors affecting the production and distribution of art. Provides as opportunity for critical review of student work.

**U770 Sculpture Advanced Studio Projects** (1-12 cr.)

**G870 M.F.A. Thesis in Sculpture** (1-12 cr.)

**Woven and Constructed Textile Design**

**S421 Woven and Constructed Textile Design III** (cr. arr.)<sup>2</sup> P: S321.

**S521 Graduate Textile Design (Woven)** (cr. arr.)  
Advanced study in the creative application of design principles to textile construction, in combination with research in the history of textiles, their materials, methods, and techniques. Multiharness and multilayer weaves, hooked and knotted rug techniques, applique, stitchery, spinning, and primitive techniques will be explored for their aesthetic implications.

**General**

**N408 Advanced Drawing for the Nonmajor** (3 cr.)

**R508 Contemporary Art Issues and Cultural Themes** (3 cr.)  
Focuses on artwork from 1980 to present. Historical references and cultural theory are considered to provoke thoughts about the interactions between art and culture.

**R590 Seminar in the Visual Arts** (2 cr.)  
Examination of issues posed by recent art and criticism. Topics vary with the instructor and year. Consult *Schedule of Classes* for current information on content. May be repeated for credit with different topics and instructors.

**S695 AI Training Seminar** (1 cr.)  
Topics include effective communication of ideas about the visual arts; health and safety regulations relevant to studio courses; grading; critiquing; and a number of course-specific teaching issues. Students also will make practice teaching presentations, which will be videotaped and reviewed by the class.

**T520 Video Art** (3 cr.)  
Exploration of the medium of video as an aesthetic expression. Time and sound are elements incorporated into visual composition's traditional concern. Emphasis on technical command of one-half-inch VHS camera and editing procedures in conjunction with development of a visual sensitivity. Readings and a research project are also required.

**U501 Special Topics in Studio Art** (1-3 cr.)

Selected topics in studio art not ordinarily covered in other departmental courses. May be repeated once with a different topic.

**G750 Graduate Study Projects** (1-12 cr.)

## Folklore

**Chairperson** Professor John H. McDowell

**Graduate Faculty**

**College Professor** Henry Glassie

**Distinguished Professors** Richard Bauman, Linda Değh (Emerita)

**Professors** İlhan Başgöz (Emeritus), Central Eurasian Studies), Mary Ellen Brown, Sandra K. Dolby, Hasan El-Shamy, William Hansen (Classical Studies), Roger L. Janelli, Portia Maultsby, John H. McDowell, Ruth M. Stone, William Wiggins Jr. (Afro-American Studies)

**Associate Professors** Mellonee Burnim, Gloria Gibson, John W. Johnson, Gregory Schrempp,\* Beverly J. Stoelje

**Assistant Professor** Sue Tuohy\*

**Adjunct Professors** John Bodnar (History), James Gordon Brotherton (Spanish and Portuguese), Raymond DeMaille (Anthropology), Anya Peterson Royce (Anthropology)

**Adjunct Associate Professor** Stephanie C. Kane (Criminal Justice)

**Director of Graduate Studies** Associate Professor Gregory Schrempp,\* 504 N. Fess Avenue, (812) 855-0389

**Degrees Offered** Master of Arts and Doctor of Philosophy

**Special Requirements**

See also general University Graduate School requirements.

**Admission Requirements** A good undergraduate record in any of the humanities or social sciences will be acceptable for admission to graduate study in folklore. Graduate Record Examination General Test scores are required (recommended but not required for international students whose first language is

not English). Students may be admitted to graduate study in folklore, concentrating in either folklore or ethnomusicology, in one of three categories: (1) M.A. (2) Ph.D. or (3) M.A./Ph.D.

**Grades** Folklore will accept no course for credit toward a degree in which the grade is lower than a B - (2.7). All students must earn a B (3.0) or better in the required folklore courses and maintain a grade point average of at least 3.2.

**Master of Arts Degree**

**Course Requirements** A minimum of 30 credit hours, including F501, F516, F517, F523, and F740. Three additional courses in folklore, including at least one course in each of the following categories: Folklore Forms (F526-599) listings; Area Courses (F600-699) listings; Theory Courses (F700-799) listings. Students pursuing the ethnomusicology concentration also must take F714 and F794.

**Foreign Language Requirement** Reading proficiency in one modern foreign language. Must be completed before M.A. project/thesis is submitted.

**Project/Thesis** Students may earn up to 6 credit hours for an M.A. project/thesis. A comprehensive oral examination is given when the project/thesis is submitted.

**Doctor of Philosophy Degree**

**Admission Requirement** M.A. degree (may comprise 30 of the 90 required credits).

**Course Requirements** A total of 90 credit hours, 36 of which are specific folklore courses including F501, F516, F517, F523, and two sections of F740 History of Ideas in Folklore/Ethnomusicology, six additional folklore courses, and a dissertation.

**Fields of Study** The Department of Folklore offers training in a number of subfields of folklore, including oral narrative, song, material culture, ritual, festival, worldview, and ethnomusicology. The department is committed to the study of expressive forms—traditional, contemporary, vernacular, and popular—within an integrative academic program. Students and faculty conduct research in a range of world areas, using diverse research methods—historical, archival, field, and laboratory. Students prepare for careers in a variety of academic and public settings.

**Minors** At least one minor required; a second minor is optional. Students opting for the Ph.D. program with a double major may count the area outside of folklore as the equivalent of two minors if approved by the Department of Folklore.

**Foreign Language Requirement** Reading proficiency in two modern foreign languages. Must be completed before qualifying examination is taken.

**Qualifying Examinations** Written

examination in theory and history, genre and forms, and area specialties followed by oral examination.

**Research Proposal** Must be approved by the research committee, a majority of whose members must be faculty of Folklore.

**Final Examination** Defense of the dissertation.

**Ph.D. Concentration in Ethnomusicology**  
The Ethnomusicology Program, in conjunction with the Department of Folklore, offers a concentration in ethnomusicology. In addition to the required folklore courses, students are required to take the following ethnomusicology courses: F523, F714, F740, and F794, plus two world music area courses.

**Ph.D. Minor in Ethnomusicology** See section under "Ethnomusicology," described elsewhere in this bulletin.

**Ph.D. Minor in Folklore** Doctoral students in other departments may obtain a minor in folklore by completing 12 credit hours (four graduate folklore courses). Three (3) credit hours must be in one of the required courses: F516, F517, or F523. Contact the graduate advisor for approval of courses.

**Courses**

**Basic Required Courses in Theory and Method**

**F501 Folklore Colloquy** (3 cr.) Acquaints the student with a variety of folkloristic topics, approaches, and methods through presentations of current research by invited members of our faculty. Each presentation is previewed by assigned readings and followed by further discussion of issues arising from the readings and presentations.

**F516 Proseminar in Folklore Theory and Method I: Materials of Folklore** (3 cr.)  
Graduate survey of the forms of folkloric expression: oral, material, customary, musical, kinetic.

**F517 Proseminar in Folklore Theory and Method II: Basic Concepts in Folklore** (3 cr.)  
Graduate introduction to conceptual foundations in folklore, such as social base of folklore, tradition, folklore and culture history, folklore as projection, genre, function, structure, text, and context, through a historical survey of approaches to folklore topics.

**F523 Field Work in Folklore/Ethnomusicology** (3 cr.)  
Theories and methods of conducting field research,

<sup>2</sup>Three (3) credits for undergraduates.

including research design, methods of data gathering, research ethics, and presentation of research results.

#### Folklore Forms

**F527 Folk Poetry and Folksong (3 cr.)** Examination of written and performed folk poetry, ritual, political, domestic, or occupational verse, blues, or popular song; scholarly perspectives associated with these forms. May be repeated for credit when topics vary.

**F535 Ritual and Festival (3 cr.)** Traditional rituals and festivals include symbolic forms of communication and a range of performance units: drama, religious expression, music, sports, the clown. Interpretive models permit cross-cultural examination of these phenomena in the United States, Africa, Latin America, Europe, Asia, etc., though study focuses only on a few events in context.

**F540 Material Culture and Folklife (3 cr.)** Material culture presented within the context of folklife, including folk architecture, folk crafts, folk art, traditional foodways, folk museums, folklife research methods, and the history of folklife research. May be repeated for credit when topics vary.

**F545 Folk Narrative (3 cr.)** Examination of myths, folktales, legends, jokes, fables, anecdotes, personal narratives, or other forms of folk narrative. Attention given to the content, form, and functions of the narratives as well as the variety of theories and methodologies employed in their study. May be repeated for credit when topics change.

#### Area Courses

**F600 Asian Folklore/Folk Music (3 cr.)** Folk religion, material culture, social customs, oral literature, and folk music of Asian societies. Relationship between political movements and the use of folklore scholarship. Transformations of traditions in modern contexts. May be repeated for credit when topics vary.

**F609 African and Afro-American Folklore/Folk Music (3 cr.)** Folklore, oral prose and poetry, and music of African societies from the precolonial to the modern national period. The perpetuation of African traditions and the creation of new folklore forms among Afro-Americans in the United States. May be repeated for credit when topics vary.

**F617 Middle East Folklore/Folk Music (3 cr.)** Intensive comparative studies of selected genres, including epics, oral narratives, folk drama, ritual and festival, riddles, proverbs, and folk music. Emphasis on analyses of genres in their social and cultural contexts. May be repeated for credit when topics vary.

**F625 North American Folklore/Folk Music (3 cr.)** Folk and popular traditions of the United States and Canada. Topics include the social base of American folklore, analytical frameworks for the study of American folklore, prominent genres of American folklore and folk music, national or regional character, and American folk style. May be repeated for credit when topics vary.

**F635 European Folklore/Folk Music (3 cr.)** Forms of folklore and folk music in Europe; historical and contemporary European scholarship in folklore and ethnomusicology. May be repeated for credit when topics vary.

**F638 Latin American Folklore/Folk Music (3 cr.)** In-depth treatment of traditional expressive forms (musical, verbal, kinetic, festive, etc.) in the various populations of Latin America, with emphasis on the historical evolution of these forms and their contribution to the articulation of contemporary Latin American identities. May be repeated for credit when topics vary.

**F640 Native American Folklore/Folk Music (3 cr.)** Comparative examination of various verbal, musical, and dance forms of Native American societies in North and South America. Examination of contributions of folklore and ethnomusicological scholarship to Native American studies. May be repeated for credit when topics vary.

**F651 Pacific Folklore/Folk Music (3 cr.)** Folklore, folklife, music, and dance of Australia, New Zealand, and native Oceanic societies. Topics include the cultures of aboriginal and settler populations, retention and adaptation of European traditions, perpetuation and adaptation of aboriginal materials, and the emergence of "native" traditions among the settler and immigrant groups. May be repeated for credit when topics vary.

#### Theory Courses

**F714 Paradigms of Ethnomusicology (3 cr.)** Examination of current paradigms for study of ethnomusicological problems. Emphasis on theoretical frameworks and specific examples of application. Required of Ph.D. students in ethnomusicology. May be repeated for credit when topics vary.

**F715 (ENG L715) English and Scottish Popular Ballads (4 cr.)** Students' investigation of principal problems met in ballad scholarship. Special attention to textual relationships, dissemination, and unique qualities of genre.

**F722 Colloquium in Theoretical Folklore/Ethnomusicology (3 cr.)** Intensive examination of social scientific theories and an assessment of their relevance to folklore/ethnomusicology scholarship. May be repeated for credit when topics vary.

#### F731 Archiving Principles and Bibliography in Folklore and Ethnomusicology (3 cr.)

History, methods, and principles of field collections and documentation, storage and preservation, cataloging and classification, bibliography, and ethical concerns. May be repeated for credit when topics vary.

**F734 Folklore and Literature (3 cr.)** The study of folklore forms and themes as they articulate with literary forms. Emphasis on understanding folklore concepts and theories for literary interpretation, and on the problems posed by literature that contribute to the interpretation of folklore. May be repeated for credit when topics vary.

**F736 Folklore and Language (3 cr.)** Linguistic or linguistically informed approaches to speech play and verbal art that are especially relevant to the concerns of folklorists. May be repeated for credit when topics vary.

**F738 Psychological Issues in Folklore (3 cr.)** P: consent of instructor. Major areas addressed: Psychological principles in early folklore scholarship; principles of learning applied to traditions; social learning; attitudes; performance and retention; systemic qualities; cybernetics: "material" and "kinetic" culture; folkloric behavior in mental health and morbidity; unrecognized ties to psychological theories; uses of folklore to educators and psychologists.

**F740 History of Ideas in Folklore/Ethnomusicology (3 cr.)** Examination of the intellectual history of folklore and ethnomusicology, emphasizing the social, political, and ideological forces which have influenced the development of the field. Required for M.A. and Ph.D. students. May be repeated for credit when topics vary.

**F750 Performance Studies (3 cr.)** Examination of performance-centered theory and analysis in folklore, ethnomusicology, and adjacent fields. May be repeated for credit when topics vary.

**F755 Folklore, Culture, and Society (3 cr.)** Relationship of folklore, culture, and social organization. Beliefs, values, and social relations in the folklore of various societies. Special topics include gender, children, and ethnicity. May be repeated for credit when topics vary.

**F792 Traditional Musical Instruments (3 cr.)** Classification, distribution, and diffusion of folk and traditional musical instruments. Construction and performance practices. Relation to cultural and physical environment. Demonstration with instruments in the collection of the university museum.

**F794 Transcription and Analysis in Folklore/Ethnomusicology (3 cr.)** P: consent of instructor. Problems in transcription, analysis, and classification of music sound and texts. Required of M.A. and Ph.D. students in ethnomusicology. May be repeated for credit.

#### Special Function Courses

**F800 Research in Folklore (cr. arr., maximum 9 hrs.)\***

**F801 Teaching Folklore (0-3 cr.)** A consideration of the philosophical, cultural, and practical issues attached to the teaching of folklore. May be repeated once.

#### F803 Practicum in

**Folklore/Ethnomusicology (1-3 cr., 6 cr. max.)** P: consent of instructor.

Individualized, supervised work in publicly oriented programs in folklore or ethnomusicology, such as public arts agencies, museums, historical commissions, and archives. Relevant readings and written report required. May be repeated.

**F804 Special Topics in Folklore/Ethnomusicology (1-3 cr.)** Topics will be selected in areas of folklore or ethnomusicology not covered in depth in existing courses. May be repeated for credit (6 cr. max.) when topics vary.

**F840 Research Seminar (3 cr.)** Prepares students for their dissertation research by examining the dissertation process and requiring from them a short draft and an expanded draft of the thesis proposal. This course is strongly recommended for Ph.D. candidates.

**F850 Thesis (cr. arr.)\***

## French and Italian

College of Arts and Sciences  
Bloomington

Chair Associate Professor Andrea Ciccarelli

Departmental e-mail: fridtept@indiana.edu

Departmental URL:  
<http://www.indiana.edu/~frithome/>

### Graduate Faculty

**Distinguished Professors** Peter Bondanella (Comparative Literature, West European Studies), Mark Musa (Emeritus)

**Rudy Professor of French and Italian** Rosemary Lloyd (French Literature), Albert Valdman (French Linguistics)

**Professors** Michael Berkvam, Julia Bondanella, Richard Carr, Gilbert Chaitin (Comparative Literature), Joel Hunt (Emeritus), Edoardo Lebano (Emeritus), Eric Emanuel Mickel, Edward Najam (Emeritus), Samuel Rosenberg (Emeritus), William Trapnell (Emeritus)

**Associate Professors** Andrea Ciccarelli, Charlotte Gerrard, Margaret Gray, Mona Houston (Emerita), Roy Leake (Emeritus), Eric MacPhail, Jacques Merceron, \*Russell Pfohl (Emeritus), Barbara Vance

**Assistant Professors** Julie Auger,\* Leonard Hinds,\* John Isbell\*

**Academic Advisors** Associate Professor Michael Berkvam (French Literature), Goodbody Hall 328, (812) 855-3982; Professor Barbara Vance (French Linguistics), Ballantine Hall 617, (812) 855-2702; Associate Professor Andrea Ciccarelli (Italian), Ballantine Hall 610, (812) 855-6029

**Degrees Offered** Master of Arts (French Literature, French Linguistics, French Instruction, Italian), and Doctor of Philosophy (French Literature, French Linguistics, Italian)

## Special Departmental Requirements

(See also general University Graduate School requirements.)

All associate instructors in French are required to take F572 and F573.

## DEGREES IN FRENCH

### Master of Arts Degree

#### French Instruction

**Admission Requirements** Completion of a major in French or the equivalent; the General Test of the Graduate Record Examination. For further details, contact the graduate secretary in the department.

**Course Requirements** A total of 30 credit hours, at least 20 credit hours of which must be in French, including F572, F573, F574 or F578, and F580. Additional work must include courses from each of four areas: French language, francophone civilization, francophone literature, and foreign language methodology/applied linguistics/second language acquisition.

**Language Proficiency Requirement** At the end of the first year of graduate study, students will be interviewed in French using a system based on the oral interview procedures developed by the American

Council on the Teaching of Foreign Languages and the Educational Testing Service. A score equivalent to "Advanced High" on the ACTFL/ETS scale is required.

**Final Examination** Written examinations in the following areas (one essay written in French): applied French linguistics, foreign language methodology/second language acquisition. Oral examination in one of the following areas of the student's choice: francophone civilization, francophone literature.

### Master of Arts Degree

#### French Literature

**Admission Requirements** Completion of a major in French or the equivalent; the General Test of the Graduate Record Examination. For further details, contact the graduate secretary in the department.

**Course Requirements** A total of 30 credit hours, at least 23 credit hours of which must be in French.

**Language Requirement** Reading proficiency in one of the following: German, Classical Greek, Italian, Latin, Russian, Spanish.

**Final Examination** Four-hour written examination based on reading list. Three essays (one written in French) on any three of the following: Middle Ages, sixteenth, seventeenth, eighteenth, nineteenth, and twentieth centuries. One may be an *explication de texte*.

### Master of Arts Degree

#### French Linguistics

**Admission Requirements** Completion of a major in French or the equivalent; the General Test of the Graduate Record Examination. For further details, contact the graduate secretary in the department.

**Course Requirements** A total of 30 credit hours of which 20 must be in French, including F574 or F578, F580, F576 (plus prerequisite Linguistics L542), F577 (plus prerequisite L543), and F603.

**Language Requirement** Reading proficiency in one of the following: German, Classical Greek, Italian, Latin, Russian, or a Romance language other than French.

**Final Examination** Written examination on three of the following areas of the student's choice: French phonology, French syntax, applied French linguistics, history of the French language, or pedagogy/language acquisition. To be admitted to the Ph.D.

program, the student must select their three examinations from the first four areas listed above.

### Doctor of Philosophy Degree

#### French Literature

**Admission Requirements** Successful completion of the curriculum and final examination constituting the department's M.A. program in French literature. Students with an M.A. from another institution must pass the department's major field examination, which may be taken near the end of the first year of study in the department or at the beginning of the second; courses taken during the first year count toward the Ph.D.

**Course Requirements** A total of 90 credit hours, including dissertation (25 credit hours). Ordinarily, 65 credit hours of course work, including F564, F574, and F603 or their equivalents.

**Language Requirement** Reading proficiency in two of the following: Catalan, German, Classical Greek, Italian, Latin, Portuguese, Russian, Spanish. One of the languages chosen must be German or Latin.

**Minor(s)** A total of 9 to 12 credit hours each, as required by the minor department(s) or program(s).

**Ph.D. Minor in French Literature** Doctoral students from other departments may complete a minor in French literature by successfully completing no fewer than four French literature courses (12 credit hours) listed in the University Graduate School Bulletin as carrying credit toward the Ph.D., of which no more than two may be at the 400 level.

**Qualifying Examination** Oral and written exams covering six literary periods and literary theory. Students may choose to be exempted from written exams on two of the six literary periods and on literary theory, provided they have achieved a grade of B or higher in two courses from each of these areas. Transfer courses may be used to qualify for exemption only if their content is verified through completion of the departmental master's exam for French literature. Students failing their qualifying exams more than once are dropped from the program but may be reinstated after one year by special petition. Examination on the minor subject at the discretion of the minor department.

### Doctor of Philosophy Degree

#### French Linguistics

**Admission Requirements** Successful completion of the curriculum and final examination constituting the department's M.A. program in French linguistics. Students with an M.A. from another institution must pass the department's major field examination, which may be taken near the end of the first year of study in the department or at the beginning of the second; courses taken during the first year count toward the Ph.D.

**Course Requirements** A total of 90 credit hours: ordinarily, 65 credit hours of course work plus 25 thesis hours. Students must complete at least four 600-level courses. (Choices are: F604, F670, F671, F672, F673, F675, F676, F677, and F678.)

**Language Requirement** Reading proficiency in Latin, German, and one Romance language.

**Minor** Twelve (12) credit hours of course work required in (1) general linguistics, excluding Linguistics L542-L543 and L503, or (2) applied linguistics, excluding Linguistics L503.

**Qualifying Examination** Written examination on any five of the following eight areas in French linguistics: (1) applied linguistics/second language acquisition/methodology, (2) phonology, (3) syntax, (4) morphology, (5) lexicology, lexicography, and semantics, (6) dialectology and sociolinguistics, (7) history of the French language, (8) Romance linguistics.

## DEGREES IN ITALIAN

### Master of Arts Degree

**Admission Requirements** Completion of a major in Italian or the equivalent; the General Test of the Graduate Record Examination. For further details, contact the graduate secretary in the department.

**Course Requirements** A total of 30 credit hours, of which 20 must be in Italian.

**Language Requirement** Reading proficiency in one of the following: French, German, Classical Greek, Latin, Spanish.

**Final Examination** Four-hour written exam based on reading list covering all periods of Italian literature.

### Doctor of Philosophy Degree

**Admission Requirement** Successful completion of the department's M.A. program in Italian or the equivalent. For further details, contact the graduate secretary in the department.

**Course Requirements** A total of 90 credit hours, including dissertation (25 credit hours). Ordinarily, 65 credit hours of course work.

**Language Requirement** Reading proficiency in two of the following: French, German, Classical Greek, Latin, Spanish. One of the languages chosen must be French, German, or Latin.

**Minor(s)** A total of 9 to 12 credit hours each, as required by the minor department(s) or program(s).

**Ph.D. Minor in Italian** Doctoral students from other departments may complete a minor in Italian by successfully completing no fewer than four Italian courses (12 credit hours) listed in this bulletin as carrying graduate credit.

### Qualifying Examination

Four written examinations on major literary periods: Medieval, Renaissance and Baroque, eighteenth and nineteenth centuries, and twentieth century (with cinema option).

## Courses

### Graduate

**F613-F614 Provencal I-II (3-3 cr.)** P: knowledge of Old French, Italian, Latin, or Spanish. F613 or equivalent is a prerequisite for F614. Poetry of the medieval troubadours.

### G611 Romance Linguistics I (3 cr.)

#### French

Courses at the 400 level that are listed below may be taken for graduate credit with the consent of the graduate advisor, unless otherwise indicated.

#### F401 Structure and Development of French (3cr.)

**F410 French Literature of the Middle Ages (3cr.)** Not open to M.A. or Ph.D. candidates in French.

**F413 French Renaissance (3 cr.)**

**F423 Tragédie classique (3 cr.)**

**F424 Comédie classique (3 cr.)**

**F425 Prose et poésie du XVIIe siècle (3 cr.)**

**F435 Enlightenment Narrative (3 cr.)**

**F436 Voltaire, Diderot, and Rousseau (3 cr.)**

**F443 Nineteenth-Century Novel I (3 cr.)**

**F444 Nineteenth-Century Novel II (3 cr.)**

**F445 Nineteenth-Century Drama (3 cr.)**

**F446 Poésie du XIXe siècle (3 cr.)**

**F450 Colloquium in French Studies-**

**Traditions and Ideas (2-3 cr.)** P: two of the following: F305, F306, or F375; or consent of instructor. Emphasis on one topic, author, or genre. May be repeated with a different topic for a maximum of nine credit hours for any combination of F450 and F451.

**F453 Le Roman au XXe siècle I (3 cr.)**

**F454 Le Roman au XXe siècle II (3 cr.)**

**F461 La France contemporaine (3 cr.)**

**F463 Civilisation française I (3 cr.)**

**F464 Civilisation française II (3 cr.)**

**F473 Writing of Expository French Prose (2 cr.)**

**F474 Thème et version (2 cr.)**

**F475 Advanced Oral Practice I (2 cr.)**

**F501-F502 Medieval French Literature I-II**

(3-3cr.) Introductory survey, all texts read in original language; no previous knowledge of Old French required. F501 or equivalent a prerequisite for F502.

**F503 Reading Old French (1 cr.)** P: F501 or equivalent. Oral translation of Old French texts and elucidation of textual and grammatical difficulties. May be repeated twice for credit.

**F505 Middle French Literature (3 cr.)**

Representative works of fourteenth and fifteenth centuries; each semester focuses on a particular writer or genre.

### F507 Foreign Language Institute (1-6 cr.)

#### F510 Foreign Study in French (2-8 cr.)

Formal study in a French university; language, literature, and culture of France. Credit to apply only to the M.A. in French Instruction degree. Program must be approved by department.

**F513 French Renaissance I (3 cr.)** Rabelais; early humanism; poetry to 1550.

**F514 French Renaissance II (3 cr.)** Pléiade and mannerist poetry; Montaigne.

**F520 Advanced French Phonetics (3 cr.)** General introduction to French phonetics and phonemics; training in the evaluation of pronunciation accuracy and the teaching of French pronunciation at the secondary school and university level; remedial practice.

**F523 French Classicism I (3 cr.)** Malherbe and his opponents, Pascal, Descartes,

Voiture, Balzac, d'Urfé, Sorel, Scarron; scepticism; religious movement; *préciosité*. Dramatic literature largely omitted, but critical ferment considered.

**F524 French Classicism II (3 cr.)** Classical movement (1660-1685); changing postclassical climate. Boileau, La Fontaine, Sévigné, Fénelon, Bossuet, Fontenelle, Bayle, La Bruyère, La Fayette, Furetière. Some attention to Molière and Racine as interpreters of contemporary scene.

**F535 Le XVIIIe siècle: l'Essai (3 cr.)**

Introduction to one of the two major genres of the Enlightenment, broadly defined and exemplified by writers like Montesquieu, Voltaire, Diderot, and Rousseau.

**F536 Le Roman au XVIIIe siècle (3 cr.)**

Introduction to the study of the French novel in the 18th century with special emphasis on three major genres of the period: the memoir-novel, the epistolary novel, and the philosophical novel.

**F540 La Poésie au XIXe siècle I (3 cr.)** From early Romanticism through Baudelaire.

**F541 La Poésie au XIXe siècle II (3 cr.)**

Parnassian and Symbolist poets.

**F545 Le Roman au XIXe siècle I (3 cr.)**

**F546 Le Roman au XIXe siècle II (3 cr.)**

**F548 La Pensée française au XIXe siècle (3 cr.)** Philosophers, historians, social critics, and religious writers, such as Chateaubriand, Michelet, Taine, Renan.

**F552 La Poésie au XXe siècle I (3 cr.)**

Panorama: poets such as Cendrars, Apollinaire, Valéry, Claudel, *les surréalistes*, Saint-John Perse, Ponge, Michaux.

**F553 La Poésie au XXe siècle II (3 cr.)**

Concentration on one or several authors; a school, e.g., surrealism; certain formal aspects.

**F555 Le Roman au XXe siècle I (3 cr.)** Representative French and francophone novels from 1900 to 1940. Novelists such as Proust, Gide, Colette, Céline, Bernanos, Sartre.

**F556 Le Roman au XXe siècle II (3 cr.)** The novel after 1940.

**F557 Le Théâtre au XXe siècle (3 cr.)** Jarry, Cocteau, Apollinaire, Claudel. Surrealism and theatre of the absurd: Vitrac, Ionesco, Adamov, Beckett, Genet, Arrabal, Artaud.

**F559 L'Essai au XXe siècle (3 cr.)** Important essays of the twentieth century, technical philosophy excluded. Authors such as Bergson, Valéry, Sartre, Camus, Weil, Artaud, Lyotard.

**F561 Studies in French Civilization (3 cr.)** Content varies. May include historical survey of the development of French civilization since the revolution, taking into consideration sociopolitical history, history of ideas, fine arts, literature. Field of study may be extended to the French-speaking world. May be repeated twice for credit.

**F563 Introduction to Graduate Study and Research (1 cr.; S/F grading)**

**F564 Issues in Literary Theory (3 cr.)** Important issues and methods of literary study, such as catharsis, genre, meaning, periodization, representation, rhetoric, and *praxis*; studied in an historical perspective.

**F572 Practicum in College French Teaching (1 cr.)** Focused classroom observations

followed by discussions; identification and evaluation of teaching techniques. Required of new associate instructors; offered only in fall semester.

**F573 Methods of College French Teaching (3 cr.)** Theoretical notions underlying current approaches; testing; evaluation of teacher performance and instructional materials. Required of all associate instructors of French; offered only in spring semester.

**F574 Thème et version: cours avancé (3 cr.)**

Translation of contemporary texts from English into French, occasionally from French into English. Emphasis on problems of literary styles.

**F575 Introduction to French Linguistics (3 cr.)** Introduction to the structure of the French language: phonology, morphology, and syntax.

**F576 French Linguistics I (3 cr.)** P: LING L542. Study of French phonology, and the phonology/morphology interface within the framework of recent linguistic models, including solutions to major descriptive problems proposed from the early 20th century to the present.



**F577 French Linguistics II (3 cr.)** P: LING L543. Study of French syntax and semantics within the framework of recent linguistic models.

**F578 Contrastive Study of French and English (3 cr.)** Advanced contrastive study of written French and English, with emphasis on problems of interference. Readings, exercises.

**F580 Applied French Linguistics (3 cr.)** Introduction to the lexical, phonological, morphological, and syntactic structure of French from a pedagogical perspective. Presentation of the several types of variation in the French language worldwide and linguistic diversity in France.

**F584 Stylistics and Semantics (3 cr.)** Relations between types of interpretation and stylistic factors. Ludic-esthetic (including literary) uses of words versus cognitive-moral uses. Emphasis on the former; genre divisions; analysis of texts focused on basic problems of interpretive decision.

**F603-F604 History of the French Language I-II (3-3 cr.)** Consideration of all aspects of the subject; concentration on internal development (phonology, morphology, syntax) from Latin to modern French. First semester offers an overview; second semester, intensive study of selected aspects of internal evolution. Knowledge of Latin useful. F603 or equivalent is a prerequisite for F604.

**F605 History of French Prose Style (3 cr.)** Philological and literary study of major figures and trends in prose style from late Middle Ages to the present. Ciceronianism, *style coupé*, oratorical styles, *écriture artiste*, etc.

**F615 Studies in Medieval French Literature (3 cr.)** P: knowledge of Old French. Intensive study of one writer, work, theme, or genre, such as Chrétien de Troyes, the *Roman de la rose*, lyric poetry. May be repeated twice for credit.

**F620 Studies in Sixteenth-Century French Literature (3 cr.)** Intensive study of a writer, genre, or aspect of the century, such as Rabelais, Montaigne, poetry, humanism. May be repeated twice for credit.

**F630 Studies in Seventeenth-Century French Literature (3 cr.)** Intensive study of one writer, work, or theme, such as Racine, Corneille, Molière, Baroque poetry. May be repeated twice for credit.

**F635 Studies in Eighteenth-Century French Literature (3 cr.)** Intensive study of one writer, work, or theme, such as theatre, novel, Diderot, Voltaire. May be repeated twice for credit.

**F640 Studies in Nineteenth-Century French Poetry (3 cr.)** Intensive study of one poet, work, or theme, such as Baudelaire, Verlaine, symbolism. May be repeated twice for credit.

**F647 Contemporary French Theory and Criticism (3 cr.)** P: F564. Recent movements and concepts in French theory influential in determining current practice in literary study. Structuralism, psychoanalysis, neo-Marxism, intertextuality, deconstruction.

**F649 Studies in Nineteenth-Century French Fiction (3 cr.)** An intensive study of one novelist such as Flaubert or Balzac. May be repeated twice for credit.

**F650 Etudes de littérature contemporaine (3 cr.)** Intensive study of one writer, work, or theme, such as Céline, literary manifestos, Proust, existentialism. May be repeated twice for credit.

**F670 Phonological Structure of French (3 cr.)** Advanced phonological description of French, involving readings of both European and American descriptivists.

**F671 Syntactic Structure of French (3 cr.)** Advanced syntactic and semantic description of French, emphasizing recently proposed linguistic models.

**F672 French Dialectology (3 cr.)** Geographical and social variation in French; traditional and modern dialectology, oil dialects and North American varieties of French, languages in contact, norm(s), variationist studies.

**F673 Topics in the Learning and Teaching of French (3 cr.)** P: F580 or equivalent. Survey of major issues in the learning and teaching of French and discussion of how these issues and research results bear on approaches to second language teaching. Designed for prospective teachers of French and students interested in second language acquisition and classroom research.

**F675 Studies in French Linguistics (3 cr.)** Content varies. May include general or intensive study in syntax, semantics, lexicography, or other linguistic topics. May be repeated twice for credit.

**F676 Structure and Sociolinguistic Aspects of Haitian Creole and Haitian French (3 cr.)** Description of the phonological, morphosyntactic, and lexical structure of Haitian Creole and comparison with Haitian French. Review of the linguistic situation of Haiti, including the respective functions of Creole and French and attitudes and values associated with each language.

**F677 French Lexicology and Lexicography (3 cr.)** P: F580 or equivalent. Study of the structure of the French lexicon. Examination of the process of dictionary compilation and evaluation. Hands-on experience in the use of computer technology for lexicographic and lexicological tasks such as the compilation of databases, use of the optic scanner, and automatic text analysis.

**F678 French Morphology (3 cr.)** P: F576. Survey of word structure from a variety of

theoretical perspectives, including inflection, derivation, and compounding.

**F810 Individual Readings in French Civilization (cr. arr.)**

**F815 Individual Readings in French Literature and Linguistics (cr. arr.)\***

**F825 Seminar in French Literature (3 cr.)** Intensive study of a topic involving more than one period of French literature. May be repeated twice for credit.

**F875 Research in French Literature and Language (cr. arr.)\***

**Italian**

**M500 Seminar in Italian Cinema (3 cr.)** Intensive study of one director, genre, or period in Italian cinema. May be repeated twice for credit when topics vary.

**M501 Dante I: Seminar on Dante's *Divine Comedy* (3 cr.)**

**M502 Dante II: Seminar on Dante's *Divine Comedy* (3 cr.)**

**M503 Medieval Italian Literature and Culture (3 cr.)** Class may be taught as a survey course or may focus on any author, period, genre, or cultural theme from the "Scuola Siciliana" to Petrarca.

**M504 Renaissance Italian Literature and Culture (3 cr.)** Class may be taught as a survey course or may focus on any author, period, genre, or cultural theme from the Enlightenment to Modernism.

**M513 Italian Renaissance Epic (3 cr.)** Survey or specific course on the Italian epic tradition from Pulci to Tasso.

**M550 Seminar in Italian Poetry (3 cr.)** Class may focus on any aspect of Italian lyric tradition from the origins to present.

**M553 Modern Italian Novel (3 cr.)** Survey course on the major Italian novelists from Manzoni to present time. Class may also function as a seminar focusing on specific issues of the novelistic genre in Italy.

**M554 Modern Italian Theatre (3 cr.)** Class may be taught as a survey course on Italian theatre from Goldoni to present time, or may focus on specific authors or periods of modernity.

**M564 Twentieth-Century Italian Poetry (3 cr.)** Major developments in contemporary Italian poetry. Emphasis on the works of Ungaretti, Montale, Saba, and Quasimodo.

**M565 Readings in the Italian Cinema (3 cr.)** Analysis of specific movements, topics, or directions in Italian cinema. Attendance of film series for M390 required. Subject may vary with each listing and is identified in the

**Schedule of Classes.** May be repeated once for credit.

**M573 Problems and Methods of Italian Language Teaching (1 cr.)** Focuses on a broad variety of pedagogical and didactic aspects of Italian language instruction.

**M815 Individual Readings in Italian Literature (1-6 cr.)**

**M825 Seminar in Italian Literature (3 cr.)** Course content varies; may include literary theme, major author, literary movement, cinema, or cultural topic. Offered regularly. May be repeated for credit with permission of the graduate advisor.

**M875 Research in Italian Literature (1-12 cr.)**

**Courses for Graduate Reading Knowledge**

**F491 Elementary French for Graduate Students (3 cr., no grad. cr.)**

**F492 Readings in French for Graduate Students (3 cr., no grad. cr.)**

**M491 Elementary Italian for Graduate Students (3 cr., no grad. cr.)**

**M492 Readings in Italian for Graduate Students (3 cr., no grad. cr.)**

## Gender Studies

**College of Arts and Sciences**  
Bloomington

**Director** Professor Judith A. Allen

**Departmental e-mail:** gender@indiana.edu

**Departmental URL:** <http://www.indiana.edu/~gender>

**Graduate Faculty**

**Distinguished Professor** Susan Gubar (English)

**Martha C. Kraft Professor of Humanities in the College of Arts and Sciences** Fedwa Malti-Douglas

**Peg Zeglin Brand Chair in Gender Studies** Helen Gremillion

**Professors** Judith A. Allen (History), Dyan Elliott (History), M. Jeanne Peterson (History), Carol Greenhouse (Anthropology)

**Associate Professor** Laurel Cornell (Sociology)

**Associate Professor (Part-time)** Stephanie Sanders (The Kinsey Institute)

**Assistant Professor** Peg Zeglin Brand\* (Philosophy)

**Affiliated Graduate Faculty**

**Professors** Maryellen Bieder (Spanish and Portuguese), Donna Eder (Sociology), Karen Hanson (Philosophy), Anya Peterson Royce (Anthropology), Darlene Sadlier (Spanish and

Portuguese)



Portuguese), Frances Stage (Education), Pamela Walters (Sociology), Mary Jo Weaver (Religious Studies), Enid Zimmerman (Education)

**Associate Professors** Eva Cherniavsky (English), Ellen Dwyer (Criminal Justice), Catherine Larson (Spanish and Portuguese), Kathleen Myers\* (Spanish and Portuguese), Beverly Stoeltje (Folklore)

**Academic Advisor** Professor Judith A. Allen, Memorial Hall East 130, (812) 855-0101

### Ph.D. Minor in Gender Studies

The interdisciplinary Ph.D. minor in Gender Studies offers students an up-to-date, problem-oriented understanding of *gender*. Masculinity and femininity, often referred to as gender, have evolved throughout history and are still evolving. Gender is a feature of all known cultures. It is subject to continual reinterpretation and wide cross-cultural variation. Studying gender is not only fascinating in itself, but often provides important clues about other fundamental characteristics within and across cultures.

Gender Studies examines gender issues related to sexuality; the body; race and class; business and politics; health; developing societies; artistic movements; academic institutions and knowledge; sports and leisure; law; the media, and many other areas. Courses explore issues related to gender across academic disciplines to develop new approaches to knowledge about gender-related issues, and to transform traditional disciplines and fields of study. The evaluation and analysis are pursued through courses offered by Gender Studies; by the College of Arts and Sciences Departments of Afro-American Studies, Anthropology, Biology, Comparative Literature, Criminal Justice, Economics, English, Folklore, French and Italian, History, History and Philosophy of Science, Philosophy, Political Science, Psychology, Religious Studies, and Sociology; and by the Schools of Education, Library and Information Sciences, Law, Music, Nursing, Public and Environmental Affairs, and Health, Physical Education and Recreation. The program is open to all graduate students.

**Course Requirements** Four courses (at least 12 credit hours) from the list of courses approved by the Gender Studies Program, at least one of which must be G601 or G602.

Candidates for the Ph.D. minor are required to take courses in both the humanities and social and behavioral sciences and 6 to 9 of the 12 credit hours outside the primary degree-granting department. Plans for the minor must be made in consultation with the director.

**Grades** Only grades of B (3.0) and above will count for credit.

**Examination** None required. A Ph.D. minor advisor may be invited to attend the student's oral qualifying examination.

### Courses

**G601 Survey of Contemporary Research in Gender Studies: The Social and Behavioral Sciences (3 cr.)**

**G602 Survey of Contemporary Research in Gender Studies: The Humanities (3 cr.)**

**G695 Graduate Readings and Research in Gender Studies (1-6 cr.)**

**G701 Graduate Topics in Gender Studies (1-4 cr.)**

## General Science

### Bloomington

**Interdepartmental Graduate Committee on General Science** Professor Hans Andersen (Education), Chairperson; Professor Gary Lane (Geology); Professor Catherine Olmer (Physics); Professor Albert Ruesink (Biology); Professor V. Jack Shiner (Chemistry)

**Graduate Advisor** Professor Hans Andersen, Wright Education Building 3109, (812) 856-8130

**Degree Offered** Master of Arts for Teachers

### Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree with 35 credit hours in science or in science and mathematics. It should be understood that the program of study for this degree is not designed to allow one to continue for the Ph.D. degree.

**Course Requirements** Sixty-five (65) credit hours in science and mathematics (counting courses taken as an undergraduate) to include:  
(1) 35 credit hours in the physical sciences, distributed as follows: astronomy (3 credit hours), chemistry (10 credit hours), geology (6 credit hours), physics (10 credit hours), and electives (6 credit hours);  
(2) 25 credit hours in the biological sciences, distributed as follows: plant sciences (10 credit hours), microbiology (5 credit hours), and zoology (10 credit hours).  
Certain general biology courses may count toward this requirement (see below); and  
(3) 5 credit hours in mathematics or computer science.

At least 36 credit hours are required beyond the bachelor's degree, including 26 credit hours in the above-named sciences, mathematics, or computer science, the remaining 10 credit hours in science, mathematics, or education.

These minimum requirements are to be met by selecting from the following courses; an advisor in the program should be consulted regarding the acceptability of other courses.

### 1. Physical Sciences

Astronomy: A100, A105 (or A110), A201, A202, A451, A452, X311  
Chemistry: C105 and C125, C106 and C126, C315, C317, C318, C335, C341, C342, C343, C344, C360

Geology: G111, G112, G221, G222, G300, G301 (or G411), G316, G319, G334, G404  
Physics: P201-P202 (or P221-P222), E250, P300, P301, P302, P310, P331, P340, P360, P421, P431

### 2. Biological Sciences

General Biology: L111, L112, L113, L211, L311, L312, L313, L318, L319, L323  
Microbiology: M310, M315  
Plant Sciences: B300, B351, B352, B364, L313, B371, B372, B373  
Zoology: Z265, Z373, Z374, Z375, Z406, Z460, Z464, Z466

3. Mathematics and Computer Science  
Mathematics: M215, M216  
Computer Science: C201

Other 300- and 400-level science courses must be approved by your advisor.

**Grades** B (3.0) average or higher; at least B in science courses.

**Certification Requirements** All students seeking the M.A.T. degree must be eligible for certification to teach at the middle school or high school level in Indiana or another state.

## Geography

Apply electronically for admission: <http://www.indiana.edu/~grdschl/infoadm.html>

### College of Arts and Sciences Bloomington

**Chairperson** Professor Daniel Knudsen

### Graduate Faculty

**Professors** William Black, Dennis Conway, Daniel Knudsen, John Olland

**Associate Professors** Charles Greer, C. Susan Grimmond, Sara Pryor, Scott Robeson

**Assistant Professors** Tom Evans,\* Hans Peter Schmid\*

### Emeritus Faculty

**Associate Professors** Don Bennett, Ernest Wohlenberg

**Associate Scientist** Rebecca Barthelme\*

### Adjunct and Visiting Faculty

**Professors** David B. Audretsch (Public and Environmental Affairs), Bennet Brabson (Physics), David MacKay (Business), Theodore Miller (Public and Environmental Affairs)

**Associate Professors** Timothy Brothers\* (I), Gregory Olyphant (Geological Sciences), Catherine Souch (I)

**Assistant Professor** Philip Stevens\* (Public and Environmental Affairs)

**Director of Graduate Studies** Associate Professor Sue Grimmond, Student Building 120, (812) 855-6303

**Degrees Offered** Master of Arts, Master of Arts for Teachers, Master of Arts in Geography and Master of Science in Environmental Science (SPEA), and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Grades** B (3.0) average or higher; B in core courses.

### Master of Arts Degree

**Admission Requirement** Undergraduate major in geography or its equivalent.

Applicants not meeting this requirement may be expected to take additional work.

**Fields of Study** Those fields available for doctoral study.

**Course Requirements** A minimum of 30 credit hours, including a core curriculum consisting of G500, G501, and G504. In addition, each student should select one topical field of concentration and complete a sequence of courses involving a minimum of 9 graduate credits in that field (including at least one seminar).

**Thesis or Research Papers** Students have the option of writing a thesis or two research papers. Up to 6 credit hours are allowed for a thesis and up to 3 credit hours are given for each research paper.

**Final Examination** Oral examination covering the topic of specialization, the thesis or research papers, and other aspects of geography.

### Master of Science Degree

**Admission Requirement** Undergraduate major in geography, atmospheric science, mathematics, physics, chemistry, biology, or equivalent. Applicants not meeting this requirement may be expected to take additional work.

**Fields of Study** Atmospheric science and/or spatial analysis and geographic information systems.

**Course Requirements** A minimum of 30 credit hours, including a core curriculum consisting of G500, G501, and G504. In addition, each student should select one topical field of concentration in either atmospheric science or spatial analysis and geographic information systems and complete

a minimum of 9 graduate credits in that field (including at least one graduate seminar).

### Master of Arts for Teachers Degree

**Admission Requirements** A full undergraduate major in geography is not required, but applicants should have had introductory courses in physical, environmental, or human geography.

**Program** An individual program of study will be arranged for each student. A general description of the M.A.T. requirements is found elsewhere in this bulletin.

### Master of Arts in Geography and Master of Science in Environmental Science (Public and Environmental Affairs)

**Admission Requirement** The Department of Geography and the School of Public and Environmental Affairs (SPEA) offer a three-year, 60 credit hour program that qualifies students for two master's degrees. A student must apply to and be accepted by the School of Public and Environmental Affairs for study toward the Master of Science in Environmental Science (M.S.E.S.) and by the Department of Geography and the Graduate School for study toward the M.A. degree. The student must select an advisory committee of at least three faculty members representing both the Department of Geography and SPEA.

**Course Requirements** A minimum of 60 credit hours, distributed as specified among the following six areas in environmental science and geography: (1) environmental sciences (12 cr.), (2) environmental management and policy (10 cr.), (3) environmental science electives (6-9 cr.), (4) geography (13 cr.) including core curriculum, G500, G501, and G504, and one 3-credit seminar, (5) geography electives (11 cr.), and (6) research (6 cr.).

**Research Project, Thesis, or Research Papers** Students may opt for either a research project, thesis, or two research papers. They may complete up to 6 credit hours (of the 60 required) of area 6 (research) in SPEA E625 for a research project; GEOG G840 for a thesis; or G845 if choosing the option of two research papers. The research report, thesis, or research papers must be acceptable to the student's advisory committee, the director of graduate studies in geography, and the director of the M.S.E.S. Program.

### Doctor of Philosophy Degree

**Admission Requirement** M.A. or M.S. degree in geography or related discipline.

**Fields of Study** Atmospheric Science, Environmental Geography, Urban and Regional Systems, and Spatial Analysis and Geographic Information Systems. Within these broad fields, students may develop research specializations in subfields. In Atmospheric Science, general fields of active research include air pollution meteorology, micro- and boundary-layer meteorology, forest and urban meteorology, climatic change and statistical climatology. Within Environmental Geography, the primary areas of research include human-environment interactions, resource management and sustainability, biogeochemical cycling, and global change. In Spatial Analysis and Geographic Information Systems (GIS), particular emphasis is placed on the application of GIS and statistical and numerical modeling. In Urban and Regional Systems, areas of particular focus are development, location analysis, and land use, population, migration and labor markets, and transportation.

**Course Requirements** A minimum of 90 credit hours, including dissertation (20 credit hours). Each student must select a major within the field of geography chosen from the fields of study listed above. Students must complete a minimum of 12 credit hours beyond the M.A. in the major. The dissertation must be written in the major field of study within geography.

**Minors** At least one outside minor required. It should be closely related to the internal major and must be chosen from approved programs of study outlined in this bulletin (unless exceptions are approved by the University Graduate School).

**Qualifying Examination** Written and oral, covering the areas of concentration, other aspects of geography, and the tentative dissertation problem.

**Research Proposal** The proposed research for the dissertation must be approved by the research committee and presented at a departmental colloquium.

**Final Examination** Oral defense of the dissertation.

**Ph.D. Minor in Geography** The requirements for the Ph.D. minor are flexible. A student's specific program should be developed in consultation with the minor-field advisor in geography. A minimum of 9 credit hours of course work, including at least one graduate seminar, is required.

### Courses

**G425 Africa: Contemporary Geographic Problems** (3 cr.)

**G427 Russia and Its Neighbors** (3 cr.)

**G428 Geography of Western Europe** (3 cr.)  
**G500 Research Problems in Geography** (4 cr.) Examination of current research areas and research problems in geography. Introduction to research design and research methods.

**G501 Research Problems in Geography II** (3 cr.) P: G500. Further development of research formulation and design skills.

Approaches to geographic research and the preparation of research problem statements and proposals that may lead to thesis or dissertation research. May be repeated for a maximum of 6 credits in second graduate degree.

**G502 Introduction to Transportation Analysis** (3 cr.) An examination of classical and contemporary approaches to the analysis of transport systems, spatial interaction, sustainable transport and related environmental and economic aspects of transport at regional and national scales.

**G504 Advanced Quantitative Methods in Geography** (3 cr.) P: G488 or G588 or equivalent. Further development of quantitative techniques to geographic problems. Methods of multivariate analysis, multiple response models, and mapping of three- or greater dimensional space.

**G505 Hydroclimatology** (3 cr.) P: G304 or consent of instructor. Hydroclimatic processes at a range of spatial scales. Topics include cloud and precipitation processes, soil water physics, runoff, and evaporation. Lecture and laboratory.

**G507 Climate Dynamics** (3 cr.) P: G304 or G532 or consent of instructor. Climate and its interannual and longer-term variations from the perspectives of theory, observations, and modeling. Topics include climate sensitivity, stability and feedbacks; oceans-air-land-ice interactions; teleconnections and their regional expression; drought; climate reconstruction and prediction using numerical models.

**G508 Mathematical Models in Geography** (3 cr.) P: G504 or consent of instructor. An examination of formal mathematical models of spatial processes and spatial structures.

Emphasis on optimization models of location and movement, spatial equilibrium models, and probabilistic models of spatial patterns.

**G509 Seminar in the History and Philosophy of Geography** (3 cr.) P: consent of instructor. This course examines the history of geography. Particular reference is made to the use of philosophical traditions of positivism, structuralism, humanism, and postmodernism within geography and to the major debates about philosophy and methodology in the last two centuries within the discipline.

**G512 Urban Transportation Analysis** (3 cr.) P: G312 or G502 or consent of instructor. Aspects of urban transportation planning process. Existing travel patterns. variations in trip

generation, spatial interaction and distribution models, assignment of trips to existing networks, and the evaluation of future networks.

**G513 Advanced Economic Geography** (3 cr.) P: G313 or consent of instructor. Advanced economic geographic theory and location decision making. Applications include agricultural, industrial, and commercial location and decision making as well as geographic understanding of the wider regional development process. Students will be expected to demonstrate understanding of theories and location decision making geographically and mathematically.

**G514 Regional Transport Systems** (3 cr.) P: G312 or G502 or consent of instructor. Theoretical and empirical analysis of transport problems and policies for state and multi-state areas. Network measurement, location theory, and flows. Regional transport planning methods for flow forecasting, flow distribution, modal choice, impact analysis, and alternative evaluation.

**G515 Advanced Urban Geography** (3 cr.) P: G314 or consent of instructor. In-depth study of contemporary theories of city system organization and the internal structure of cities. Emphasizes hierarchical city systems and interaction in global economy, the internal transformation of cities and problems of urbanization such as racial and ethnic segregation, economic restructuring, and urban decline.

**G517 Geography of Developing Countries: Critical Perspectives** (3 cr.) Critical examination of development theories and development experiences of Third World countries in recent times. Emphasis is on global structural forces, spatial processes, political ecological relations of the poor and the processes of migration, urbanization, rural development, and resource exploitation.

**G519 Urban Land Use Planning** (3 cr.) P: G314, G415, or consent of instructor. Land use planning principles including the comprehensive planning process; land use assessment, urban design, zoning and land use regulation, site and subdivision design, capital improvements, and historical preservation. Emphasizes applied aspects of land use planning in public and private sectors.

**G520 Migration and Population Redistribution** (3 cr.) P: G314, G320, or consent of instructor. Study of international regional and intraurban migration using micro- and macro-level approaches, and the impacts of population redistribution on origin and destination. Topics include illegal immigration to the U.S., rural to urban migration in LDCs, international migration and refugees, and gender differences in migration behavior.

**G530 Transport Planning Topics (3 cr.)** P: G312 or G502 or consent of instructor. Developments in transportation planning. Topics such as rail planning, urban transit planning, transportation of energy, entropy flow models, behavioral travel models. May be repeated three times for a maximum of 9 credit hours.

**G531 Dynamic Meteorology (3 cr.)** P: MATH M211-M212, PHYS P201 or P221 (P221 recommended), GEOG G304 or G532 or consent of instructor. Introduction to dynamical processes and analysis in the atmosphere. Principles of fluid dynamics and their application to the atmosphere. Basic conservation laws and equations of motion. Circulation and vorticity. Dynamics of synoptic systems: quasigeostrophic analysis; oscillations and waves; baroclinic instability; and cyclogenesis. General circulation. Numerical modeling.

**G532 Physical Meteorology and Climatology (3 cr.)** Fundamental atmospheric properties and interrelationships. Radiation theory, components of energy and moisture balance, atmospheric circulation, upper air surface relationships, and global weather system.

**G533 Synoptic Meteorology and Climatology (3 cr.)** P: G304 or G532 or consent of instructor. Analysis and prediction of synoptic scale weather systems, emphasizing the mid-latitudes. Other topics covered include severe weather and atmospheric/oceanic teleconnections.

**G534 Air Pollution Meteorology (3 cr.)** P: G304 or G532 or consent of instructor. Analysis of the physical laws that govern the transport, transformation and removal of atmospheric pollutants. Primary emphasis will be on physical and chemical processes, although biological impacts will also be considered.

**G535 Topics in Mesoscale Meteorology (3 cr.)** P: MATH M211-M212, PHYS P201 or P221 (P221 recommended), and GEOG G304 or G532 or consent of instructor. Topics may include application of principles of dynamic meteorology and thermodynamics to mesoscale atmospheric phenomena; mesoscale circulations and boundary layer; fronts and frontogenesis; hurricanes and tornadoes; and flow topography interactions.

**G536 Advanced Remote Sensing: Digital Image Processing (3 cr.)** Advanced remote sensing theory and digital image processing techniques with an emphasis on environmental science applications. Hands-on computer exercises provide significant experience in digital image processing techniques for extraction of qualitative and quantitative information about Earth's terrestrial and aquatic environments.

**G537 Computer Cartography and Graphics (3 cr.)** Compilation, design, production, and

evaluation of maps and related graphic materials. Includes cartometric procedures, symbolization, color use guidelines, map typography, photographic manipulations, computer animation, and geographic visualization techniques.

**G538 Geographic Information Systems (3 cr.)** Overview of the principles and practices of Geographic Information Systems (GIS). Spatial data models, database design, introductory and intermediate GIS, operations and case studies of real-world GIS applications.

Laboratory exercises will provide significant hands-on experience. Lecture and Laboratory.

**G539 Advanced Geographic Information Systems (3 cr.)** P: G538 or consent of instructor. Intermediate and advanced topics in geographic information science and spatial analysis techniques using GIS software. This advanced course is for graduates who seek a greater understanding of this rapidly developing field and to learn how to construct, manage, and analyze their own GIS data and models.

**G540 Topics in Environmental Geography (3 cr.)** P: G305 or G315 or consent of instructor. Selected topics focus on the human dimensions of environmental change/conservation. Example focus topics: population-environment interactions, transport-environment interactions, and urban-environment interactions. May be repeated four times with a different topic for a maximum of 12 credit hours.

**G543 Cognitive Mapping and Spatial Analysis (3 cr.)** An examination of theoretical, experimental, and empirical studies of cognitive mapping of spatial phenomena. Application of analytical procedures in the construction and analysis of cognitive maps is stressed.

**G550 Instrumentation and Field Methods in Atmospheric Science (3 cr.)** P or C: G304 or G532 or consent of instructor. Sampling, instrumentation, measurement, analysis, and interpretation of data concerning features and processes of the atmospheric environment. Use of field and laboratory equipment within the context of research and standard projects. Practical application of climatological and meteorological principles.

**G570 Micrometeorology (3 cr.)** P: G304 or G532, MATH M211-M212, or consent of instructor. Atmospheric processes at the micro and local scale. Topics include energy and mass exchange over simple non-vegetated surfaces, vegetated surfaces, non-uniform terrain, and inadvertent climate modification.

**G571 Topics in Micro and Boundary Layer Meteorology (3 cr.)** P: G570, MATH M211-M212, PHYS P201 or P221 (P221 recommended), or consent of instructor. Topics may include surface-vegetation-

atmosphere interaction; dynamics of turbulent transport; boundary layer dynamics; turbulent kinetic energy and stability; dimensional analysis and similarity theory; effects of surface inhomogeneity on boundary layer dynamics; patchiness; urbanization; regional aggregation of surface atmosphere exchange; applications to mesoscale modeling and air pollution dispersion modeling.

**G572 Advanced Instrumentation and Field Methods in Atmospheric Science (3 cr.)** P: G305 or G550 or consent of instructor.

Sampling, instrumentation, measurement, analysis and interpretation of data concerning fluxes and variables in the boundary layer. Emphasis is on research and practical applications of micrometeorological principles.

**G575 Climate Change (3 cr.)** P: at least two undergraduate courses in the physical sciences or consent of instructor. Evidence for and theories of climate change over a range of time scales. Sources and interpretation of proxy climate data are presented along with modeling tools for assessing climate response to a range of forcing and paleoclimate perspectives on future climate change.

**G577 Topics in Atmospheric Science (3 cr.)** P: G304 or G532 or consent of instructor. Selected topics in microclimatology, dynamic meteorology, statistical methods in climatology, climatic change, radiation theory, or other areas of climatology and meteorology. May be repeated once for credit with different topic.

**G588 Applied Spatial Statistics (3 cr.)** P: consent of instructor. Extension of traditional statistical analysis to spatial data. Spatial means and spatial variances, the examination of differences in samples over space, spatial autocorrelation, nearest neighbor analysis, map comparison techniques. Emphasis on practical applications.

**G589 Atmospheric Data Analysis (3 cr.)** P: an introductory course in statistics or consent of instructor. Introduction to methods of data analysis used in the atmospheric sciences, emphasizing applications. Topics include statistical forecasting, spatial interpolation, spectral analysis and filtering, vector data analysis, and model evaluation.

**G602 Topical Seminar in Atmospheric Science (3 cr.)** Topics will vary to consider aspects of atmospheric science. May be repeated for a maximum of 12 credits.

**G603 Topical Seminar in Urban and Regional Systems (3 cr.)** P: consent of instructor. Topics will vary to consider aspects of urban and regional geography. May be repeated for a maximum of 12 credits.

**G604 Topical Seminar in Environmental Geography (3 cr.)** Topics will vary to consider aspects of environmental geography. May be repeated for a maximum of 12 credits.

**G639 Topical Seminar in Spatial Analysis and Geographic Information Science (3 cr.)** Applications of geographic information science principles in the collection and analysis of spatial data. Integration of GIS, remote sensing, and GPS technologies. Review of current literature on techniques, theory, technology, and applications with an emphasis on environmental topics. Discussion, laboratory, and research project.

**G830 Readings in Geography (cr. arr.; 12 cr. max.)** P: advanced courses in geography or closely related fields. Supervised readings on selected topics.

**G840 Research in Geography (cr. arr.)\*** P: consent of faculty member. Individual research.

**G845 Research Papers in Geography (1-6 cr.)** P: consent of instructor. M.S.E.S. research papers under supervision of faculty.

**G850 M.A. Thesis (cr. arr.; 6 cr. max.)\*** Thesis and special collaborative work between students and staff members.

**G860 Ph.D. Thesis (cr. arr.)\***

## Education

**M530 Geography in Education (2 cr.)**

## Graduate

**G591 Methods of Population Analysis and Their Applications (3 cr.)**

# Geological Sciences

## BLOOMINGTON PROGRAM

College of Arts and Sciences

Chairperson Professor Christopher G. Maples

## Graduate Faculty

Distinguished Professor Peter Ortoleva (Chemistry)

Professors Abhijit Basu, Simon Brassell, Jeremy Dunning (Continuing Studies), Hendrik Haitjema (Public and Environmental Affairs), Erle Kauffman, Noel Krothe, Enrique Merino, Gary Pavlis, Lisa Pratt, Edward Ripley, Lee J. Suttner, Jeffrey White (Public and Environmental Affairs), Robert Wintsch

Associate Professors James Brophy, Michael Hamburger, Gregory Olyphant, David Towell

Assistant Professor Claudia Johnson\*

Professors (Emeritus) J. Robert Dodd, John Droste, Donald Hattin, Norman Hester, Gary Lane, Judson Mead, Haydn Murray

Associated Research Faculty Ned Bleuer\*, John Comer, Bruce Douglas,\* Brian Keith, Maria Mastalerz,\* Carl Rexroad, Arndt Schimmelmann, John Steinmetz, Todd

Thompson

**Graduate Advisor** Professor Simon Brassell, Geology Building 127, (812) 855-7214 or (800) 553-2592

**Degrees Offered** Master of Science and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** An undergraduate degree in the physical or natural sciences. It is expected that students will have an undergraduate background that includes course work in allied sciences/mathematics, equivalent to one year of chemistry and physics or biology, mathematics through differential and integral calculus, plus at least 6 credit hours of higher-level courses. A substantive foundation course in field geology or comparable independent field experience. Students with degrees in engineering or other related fields are also encouraged to apply. The general Graduate Record Examination is required; the subject test in the student's major area is optional.

### Master of Science Degree

**Course Requirements** A minimum of 30 graduate credit hours in geological sciences, including at least two courses from the core curriculum within the major research field.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation and 35 credit hours of course work approved for graduate credit (excluding G600, G700, and G810), of which a minimum of 20 credit hours must be taken within the Department of Geological Sciences. It is expected that all core courses within the major research field will be taken. All graduate students working toward the Ph.D. degree are expected to satisfy the master's degree requirements unless they can show cause to the geological sciences faculty for having that requirement waived.

**Minor** Outside minor in a related field (including chemistry, physics, biology, mathematics, and environmental sciences), or, under certain conditions, in geochemistry, geophysics, or geobiology.

### Foreign Language/Research-Skill Requirement

Reading proficiency in one foreign language (French, German, Russian, or Spanish) or a research skill in mathematics, computer science, chemistry, or physics. Courses taken to satisfy this requirement do not carry graduate credit. For specific details concerning approved research-skill courses, consult the graduate advisor.

**Other Provision** All students in the Ph.D. program are encouraged to serve at least one semester as associate instructors during their graduate study.

**Qualifying Examination** Comprehensive: written and oral.

**Final Examination** Oral defense of the dissertation.

### Courses Offered

Courses offered at Bloomington are loosely organized as introductory topics, core courses, and specialist fields and multidisciplinary offerings at the convergence of different areas. Introductory courses cover topical research issues, and quantitative skills, stressing interdisciplinary approaches and problem-solving skills. Core courses provide the fundamental core curriculum within each of the department's major disciplines, environmental geoscience, geobiology, geochemistry, sedimentary systems and solid-earth dynamics. Many new core courses are offered as G690 courses; these include Isotope Systematics, Origin of Sedimentary Rocks, Basin Analysis, Magmatic Geochemistry, and Evolution of Ecosystems; Environmental Field Methods was initially offered as G700. Advanced topics in specialized areas of sub-disciplines and seminars in interdisciplinary themes have included Chemical Oceanography and Cenozoic Climate Change or specific topics like invertebrate paleontology, paleoecology, stratigraphy, sedimentology, and coal geology. All core courses will be offered on the Bloomington campus during the academic years 2000-2002; several will be taught as G690 topics. A selection of advanced courses, dependent on the research interests of the student body, will also be offered. The courses available in Bloomington are:

G403	G429	G524	G600
G404	G430	G535	G601
G406	G451	G550	G612
G411	G501	G551	G613
G413	G503	G553	G616
G415	G504	G554	G617
G416	G506	G561	G626
G417	G509	G571	G633
G418	G513	G572	G637
G420	G514	G587	G690
G423	G515	G591	G700
G427	G521	G592	G810

### INDIANAPOLIS PROGRAM

School of Science

**Chairperson** Associate Professor Andrew P. Barth

**Departmental e-mail:** ibsz100@iupui.edu

**Departmental URL:** <http://www.geology.iupui.edu/>

### Graduate Faculty

**Professor** Robert D. Hall

**Associate Professors** Andrew P. Barth, Pascal deCapraris, Gabriel Filippelli,\* Joseph Pachut Jr., Gary D. Rosenberg, Lenore Tedesco

**Assistant Professor** Eliot Anong Atekwana\*  
**Adjunct Associate Professor** Greg Lindsey\*  
(School of Public and Environmental Affairs)

**Graduate Advisor** Associate Professor Lenore P. Tedesco, Engineering/Science/Technology Building, SL 118, (317) 274-7484

**Degree Offered** Master of Science in Geology, with concentration in environmental geology.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree in geology, and a minimum of a B (3.0) average in geology courses. One year of chemistry, mathematics through college algebra and trigonometry, and a course in computer programming. Each student must submit three letters of recommendation.

Individuals with a bachelor's degree in another area of science are also encouraged to apply; the departmental Graduate Committee will prescribe a plan of study to remove deficiencies. The Graduate Record Examination General Test is required; the Subject Test in Geology is optional.

**Course Requirements** Both thesis and non-thesis options are available. Both options require at least 18 credit hours of non-research course work in geology and at least 3 credit hours in courses approved for graduate credit from allied sciences, mathematics, or the environmental program of the School of Environmental Affairs (SPEA). Up to 6 hours of 400-level courses approved for graduate credit may be counted toward the degree with the approval of the advisor. The thesis option requires the completion of 30 credit hours, 6 of which (the thesis) are taken as G810 Research. The non-thesis option requires the completion of 36 credit hours, 3 of which consist of a

research project taken as G700 Geologic Problems. For both options, elective credits outside of Geology must be approved by the departmental graduate committee.

**Grades** A B (3.0) average or higher must be maintained; no more than 6 credit hours of C are acceptable.

### Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Indianapolis campus during the academic years 2000-2002:

G525	G551	G635	G700
G535	G585	G640	G810
G545	G595	G645	
G550	G621	G690	

### Courses

Please note that indications of core courses are relevant for Bloomington offerings only. Courses at the 400 level are available for graduate credit to all graduate students.  
**G403 Optical Mineralogy and Petrology** (3 cr.)

**G406 Geobiology** (3 cr.)

**G406 Introduction to Geochemistry** (3 cr.)

**G411 Invertebrate Paleontology** (3 cr.)

**G413 Introduction to Earth Physics** (3 cr.)

**G415 Geomorphology** (3 cr.)

**G416 Economic Geology** (3 cr.)

**G417 Optical Mineralogy** (3 cr.)

**G418 Igneous and Metamorphic Petrology** (3 cr.)

**G420 Regional Geology Field Trip** (1-2 cr.)

**G423 Methods in Applied Geophysics** (4 cr.)

**G427 Introduction to X-Ray Mineralogy** (1 cr.)  
**G429 Field Geology in the Rocky Mountains** (7 cr.)

**G430 Principles of Hydrology** (4 cr.)

**G451 Principles of Hydrogeology** (3 cr.)

**G501 Sedimentary Processes and Environments** (3 cr.) P: graduate standing.

Origin and controls of facies distribution in sedimentary systems. Field study of selected ancient facies systems.

**G503 Phase Equilibria** (3 cr.) P or C: C360, C406, or consent of instructor.

Thermodynamic functions and conditions of equilibria in unary, binary, ternary, and multicomponent systems. Mixing properties of crystalline solutions. Chemical potential and activity diagrams.

**G504 Metamorphic Petrology** (3 cr.) P: G418, C503. The evolution of mineral assemblages and compositions during prograde metamorphism. Reaction mechanisms. Effect of fluid composition on mineral assemblages.

Theoretical basis and description of various projection schemes. Appraisal of selected experimental studies.

**G506 Principles of Igneous Petrology (3 cr.)** P: G418. Origin, composition, classification, phase relationships, and distribution of igneous rocks; economic considerations. Emphasis on province, associations, and facies type.

**G509 Theoretical Geochemistry (4 cr.)** P: C360, C361, P340, or G406 or the equivalent; consent of instructor. Thermodynamics and solution chemistry as tools in geochemistry; designed for students planning advanced work or research in geochemistry.

**G513 Seismology I (3 cr.)** P: MATH M343 or M313; PHYS P222. Earthquakes, propagation of elastic waves, interpretation of seismological data, theory of seismological instruments. (Core: Solid-Earth Dynamics)

**G514 Geophysical Signal Analysis (3 cr.)** P: PHYS P222; MATH M343 or M313. Construction, analysis, and interpretation of geophysical signals. Filter theory, spectral analysis, signal-to-noise enhancement, transform theory, seismic wave propagation, computer applications.

**G515 Analysis of Earthquake Seismograms (1 cr.)** P: G413. Analysis of local, regional, and teleseismic phases recorded on the Indiana University long- and short-period seismographs. Use of seismic records to determine earthquake source parameters, deep earth structure, and near-station structure. Surface wave dispersion and structure of the lithosphere.

**G521 Micropaleontology (3 cr.)** P: G404 or G411 or advanced standing in biological sciences. Morphology, biology, ecology, biostratigraphy, and phylogenetic relationships of microfossils. Course will survey the common fossil groups including cyanobacteria, diatoms, dinoflagellates, acritarchs, foraminifera, and radiolaria.

**G524 Carbonate Facies and Environments (2 cr.)** P: graduate standing. Carbonate environments from modern and ancient examples (including subsurface). Various ramp and platform margin depositional models. Emphasis on types and origin of facies. Current and classical literature on carbonates.

**G535 Quaternary Geology (3 cr.)** P: G415 or consent of instructor. Characteristics, distribution, and origin of Pleistocene and recent deposits; stratigraphy and chronology; formation of associated landforms, landscapes, paleosols, and soils; Quaternary environments. Core: Environmental Geoscience.

**G541 Invertebrate Paleontology (3 cr.)** P: G411 or advanced standing in biological sciences. An introduction to research on invertebrate

macrofossils. Classification, evolution, ecology, and biostratigraphy of selected groups of fossils. A field and laboratory project is an integral part of the course.

**G550 Surface Water Hydrology (3 cr.)** P: G451 and M216, or consent of instructor. Mechanics of surface runoff and open channel flow.

Rainfall-runoff equations, probability analysis of stream flow, and watershed simulation models. Chemistry of surface waters and stream pollution. Core: Environmental Geoscience.

**G551 Advanced Hydrogeology (3 cr.)** P: G451. Basic principles and quantitative aspects of physical flow systems and chemistry of ground water and surface water. The relationships between water and geologic materials. Core: Environmental Geoscience.

**G553 Gravitational and Magnetic Field Analysis (2 cr.)** P: G413; MATH M343 or M313; PHYS P222. Potential field theory and its application in interpretation of gravity and magnetic fields. Core: Solid-Earth Dynamics.

**G554 Fundamentals of Plate Tectonics (3 cr.)** P: graduate standing in geology or consent of instructor. Synthesis of observations from diverse disciplines of geology leading to the development of modern plate tectonic theory.

Applications of plate tectonic principles to fundamental problems of continental and marine geology. Core: Solid-Earth Dynamics.

**G561 Paleogeology (3 cr.)** P: G334 and G404 or G411. Relationships between modern and fossil organisms and their physical, chemical, and biological environments; emphasis on techniques for interpreting past environmental conditions.

**G571 Principles of Petroleum Geology (3 cr.)** P: G323. Origin, geochemistry, migration, and accumulation of petroleum; reservoir rocks; and their rationale; methods and devices for data gathering and detection.

**G572 Basin Analysis and Hydrocarbons (3 cr.)** P: G323 and G334. Modern concepts of tectonics and sedimentary basin analysis. Geologic application of geophysical logs and seismic stratigraphy to basin analysis, facies distribution, and structural style in a variety of basin types with specific examples from around the world. Techniques of hydrocarbon assessment in basinal settings.

**G587 Organic Geochemistry (3 cr.)** P: consent of instructor. Application of organic geochemical methods in determining origins of fossil fuels and in defining biological and environmental histories of rocks.

**G591 Physical Sedimentology (3 cr.)** P: G415, G501 or equivalent. Dynamics of fluid flow, hydraulics of sediment transport, interaction of physical processes in depositional

environments. Field study of selected modern depositional environments.

**G592 Chemical Sedimentology (3 cr.)** P: G509, G418, or consent of instructor. Study of low-temperature (<300 degrees C) mineral assemblages in order to infer their chemical conditions of formation.

**G600 Advanced Techniques (cr. arr.)\*** P: consent of instructor. Training in special geologic methods such as exploration seismology, experimental petrology, X-ray spectroscopy, electron probe microanalysis, isotopic and organic mass spectrometry.

**G601 Clay Mineralogy (3 cr.)** P: consent of instructor. Composition, structure, properties, methods of identification, and origin and distribution of clay minerals. Core: Sedimentary Systems.

**G612 Inverse Methods in Geophysics (2 cr.)** P: MATH M301, M303, or equivalent. Mathematical techniques to infer the properties of the deep interior of the earth from geophysical data and to appraise the reliability of the results. Theory of generalized inverses in finite dimensional vector spaces and Hilbert space. Resolving power of data. Nonlinear inverse methods.

**G613 Seismology II (3 cr.)** P: G513. Theory of wave propagation in layered elastic media: Lamb's problem, Cagniard's method, and propagator matrices. Body force equivalents and the moment tensor representation of seismic sources. Additional selected topics.

**G616 Metalliferous Mineral Deposits (3 cr.)** P: G416 and G406, or equivalent. Geological processes controlling ore deposition. Application of stable and radioactive isotopes, fluid inclusions, and thermodynamics to the study of ore deposits. Laboratory study of opaque minerals using reflected light microscopy.

**G617 Geochemical Exploration (3 cr.)** P: G416. Application of geochemical methods in the search for mineral deposits, including analytical techniques, migration of elements, data interpretation, and field problems. Lecture and laboratory.

**G626 Industrial Minerals (3 cr.)** P: G416. Origin, mode of occurrence, distribution, and uses of mineral commodities other than ores and fuels. Geology of the rocks and minerals used for building materials, chemical raw materials, refractories, fillers, abrasives, fertilizers, fluxes, insulation, filtering agents, and pigments.

**G633 Advanced Geophysics Seminar (1-3 cr.)** P: consent of instructor. Selected topics in earth physics. S/F grading.

**G637 Seminar in Tectonics (1 cr.)** P: consent of instructor. Multidisciplinary seminar focusing on regional-scale deformation of the earth's lithosphere.

**G690 Advanced Geology Seminar (cr. arr.)** P: consent of instructor. Seminars on critical research issues and topical themes. S/F grading

**G700 Geologic Problems (1-5 cr.)\*** P: consent of instructor. Consideration of special geological problems.

**G810 Research (cr. arr.)\***

## Institute of German Studies

College of Arts and Sciences  
Bloomington

Director Professor Marc A. Weiner

Departmental e-mail: germanic@indiana.edu  
Departmental URL: <http://www.indiana.edu/~germanic/graduate/institut.html>

### Graduate Faculty

**Professors** Frederick Beiser\* (Philosophy), George Buelow (Emeritus, Music), Matei Calinescu (Emeritus, Comparative Literature), Frederick Churchill (Emeritus, History and Philosophy of Science), James Diehl (History), Paul Eisenberg (Philosophy), Norman Furniss (Political Science), Maurice Garnier (Sociology), Ingeborg Hoesterey (Germanic Studies, Comparative Literature), Albrecht Holschuh (Germanic Studies), Breon Mitchell (Germanic Studies, Comparative Literature), Elinor Ostrom (Political Science), Alvin Rosenfeld (English), Terence Thayer (Germanic Studies), Marc A. Weiner (Germanic Studies, Comparative Literature)

**Associate Professors** John Efron\* (History), David Pace (History), William Rasch (Germanic Studies, Philosophy), Robert Rohrschneider\* (Political Science), Katrin Sieg\* (Germanic Studies)

**Assistant Professors** Fritz Breithaupt\* (Germanic Studies), Michelle Facos (Fine Arts)  
**Academic Advisor** Professor Marc A. Weiner, Ballantine Hall 668, (812) 855-2033

The Institute of German Studies provides graduate students with a flexible curriculum to pursue study and research in the society and cultural production of German-speaking Europe from 1740 to the present. Most work on this subject unfolds through consideration of diverse critical paradigms, including those in current American culture studies. Study in the institute is linked closely, but not exclusively, to the master's degree in Modern German Literature and Culture in the Department of Germanic Studies, and is also open to students from related disciplines (e.g., West European Studies, History, Political Science, Philosophy,

the Program in Cultural Studies, and the Jewish Studies Program). The institute also offers a Ph.D. minor. Courses are taught by the faculty of the Department of Germanic Studies specializing in 1740 to the present, and by instructors in the above-mentioned related disciplines.

### Ph.D. Minor in German Studies

The Ph.D. minor in German studies is available to doctoral students in all departments except Germanic Studies; 15 credit hours of course work are required. Consult the director of the institute for information regarding courses acceptable for the minor.

### Courses

The following, non-exclusive list contains examples of the kinds of courses that may be taken outside of the Department of Germanic Studies for credit in the institute.

- V605 Selected Topics in German Studies** (2-4 cr.; 12 cr. max.)
- V815 Individual Readings in German Studies** (1-8 cr.) May be repeated for credit.
- Anthropology**
- E607 Hasidic Culture and Oral Tradition** (3 cr.)
- Comparative Literature**
- C504 Topics in World Criticism and Theory II** (4 cr.)
- C546 Sexuality and the Arts** (4 cr.)
- C555 Theory and Methods of Inter-Arts Studies** (4 cr.)
- C602 Contemporary Theoretical Issues and Approaches** (4 cr.)
- C655 Topics in Inter-Arts Studies** (4 cr.)
- Film Studies**
- C590 Film and Society** (4 cr.)
- C693 Film Adaptations of Literature** (4 cr.)
- C790 Studies in Film and Literature** (4 cr.)
- C792 Film History and Theory** (4 cr.)
- Fine Arts**
- A442 Twentieth-Century Art 1900-1924** (4 cr.)
- A495 Readings and Research in Art History** (1-4 cr.; 8 cr. max.) Topic: Twentieth-Century German Art.
- Germanic Studies**
- G503 Introduction to Graduate Study in German Literature** (3 cr.)
- G563 German Culture Studies I** (3 cr.)
- G564 German Culture Studies II** (3 cr.)
- G575 Historical Study of German Literature III** (3 cr.)

- G577 Historical Study of German Literature IV** (3 cr.)
- G625 Colloquium** (3 cr.)
- G825 Seminar in German Literature** (4 cr.)
- History**
- B366 Paris and Berlin in the 1920s: A Cultural History** (3 cr.)
- B378 History of Germany since 1648 II** (3 cr.)
- B393 German History: From Bismarck to Hitler** (3 cr.)
- H523 The Holocaust** (3 cr.)
- H620 Colloquium: Modern Western European History** (4 cr.) Topic: Problems in Modern German History.
- History and Philosophy of Science**
- X567 Science in Germany: Nineteenth and Twentieth Centuries** (3 cr.)
- School of Music, Department of Musicology**
- M502 Composers** (3 cr.) Topic: Wagner/Beethoven/Strauss
- Philosophy**
- P522 Topics in the History of Modern Philosophy** (3 cr.)
- P544 Selected Topics in History of Social and Political Philosophy** (3 cr.)
- Political Science**
- Y657 Comparative Politics** (3 cr.)
- Religious Studies**
- R680 Religion and the Problems of Modernity** (3 cr.)
- Sociology**
- S660 Advanced Topics** (3 cr.) Topic: The Sociological Structures of the United States and Germany
- West European Studies**
- W301 Modern European Politics and Society** (3 cr.)
- W302 Modern European Culture and National Identities** (3 cr.)
- Additional courses are often drawn from the non-exclusive list of departments and programs given above. Consent of the director of the institute and from the individual instructor of each course must be obtained to enroll.

## Germanic Studies

College of Arts and Sciences  
Bloomington

Chairperson Professor Kari Ellen Gade

a scholarly project; and effective critical and analytical thinking. It is recommended that students consult with appropriate faculty members regarding selection and revision of the project paper. A three-person faculty committee evaluates each project and conducts an oral defense that examines the candidate's ability to present concisely the main argument(s) of the project; place the project in larger scholarly contexts; discuss sources and scholarly literature used; and respond effectively to committee members' questions and comments. Students have the option of enrolling in German G850 Master's Project for one credit so that the project's completion is reflected on their permanent academic record and transcripts.

### Master of Arts in Germanic Studies

**Course Requirements** A total of 30 credit hours, including G503, G532 or G551 or G640; and one seminar or colloquium at Indiana University. At least 12 additional credit hours in Germanic studies.

**Language Requirement** Reading proficiency in an additional foreign language, preferably French.

**Thesis** Not required.

## Graduate Faculty

**Professors** Theodore M. Andersson (Emeritus), Frank Banta (Emeritus), Peter Boerner (Emeritus, West European Studies), Kari Ellen Gade, Ingeborg Hoesterey (Comparative Literature), Albrecht Holschuh, Sidney Johnson (Emeritus), Bron Mitchell (Comparative Literature), Ferdinand Piedmont (Emeritus), Hugh Powell (Emeritus), Eberhard Reichmann (Emeritus), Henry Remak (Emeritus, Comparative Literature, West European Studies), William Shetter (Emeritus), Terence Thayer, Stephen Wailes, Marc Weiner, Ulrich Weisstein (Emeritus, Comparative Literature)

**Associate Professors** Catherine Fraser, William Rasch, Katrin Sieg\*, Rex Sprouse, Carl Ziegler\* (Comparative Literature)

**Assistant Professors** Fritz Breithaupt\*

**Director of Graduate Studies** Associate Professor William Rasch, Ballantine Hall 654, (812) 855-8242

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

Students may follow one of two different curricula in pursuit of the M.A. degree. Admission requirements are the same for both programs, and the official degree title for both options is the M.A. in Germanic Studies.

**Admission Requirements** Near-native command of German and undergraduate major in the field or other evidence of adequate background. Deficiencies may be removed by course work or special examination.

### Master's Project

Both the Master of Arts in Germanic Studies and the Master of Arts in Modern German Culture require successful completion of a Master's Project, which is intended to give students experience in carrying out a limited scholarly investigation to the fullest of their potential. The project is normally submitted after three or four semesters of study, but may be submitted as early as the first year. It entails appropriate revision and oral defense of a research paper of 20 to 30 pages originally written for a graduate course in Germanic Studies. The paper should demonstrate command of expository English or German; competence in the use of bibliographic and research tools; ability to conceive and develop

### Master of Arts in Modern German Culture

**Course Requirements** A total of 30 credit hours, including C503; C563; G564; and V605 or V815. Nine (9) additional credit hours in Germanic Studies. Up to 9 further credit hours may be taken in other relevant programs and departments (history, comparative literature, etc.); specific courses must be approved by the director of graduate studies. Max Kade Fellows should seek approvals for specific courses from the director of the Institute of German Studies.

**Language Requirement** Reading proficiency in an additional foreign language, preferably French.

### Master of Arts for Teachers Degree

**Admission Requirements** 20 credit hours of course work (or the equivalent) beyond first-year German.

**Course Requirements** A total of 36 credit hours; at least 20 of these must be in Germanic Studies, including G500; G540; two courses from G548, G551, and G558; two literature or culture courses in German, one of which may be at the 400 level. Students must demonstrate proficiency in depth in German; contact the language coordinator in the department for information.

### Doctor of Philosophy Degree

**Admission Requirement** M.A. in German or equivalent. Students with a master's degree in a related discipline who have completed extensive graduate-level work in German may also apply.

**Credit transfer** Entering doctoral students may present up to 30 credit hours of previous graduate-level work towards the 90-hour minimum required for the Ph.D. degree, subject to the regulations and approval of the University Graduate School.

**Language** Reading proficiency in French. A substitution may be permitted; such a substitution should serve the candidate's major research interests.

**Other requirements** Specific departmental course and credit-hour requirements for each of the three Ph.D. majors are outlined below.

**Examinations** A two-part written examination followed by an oral examination. The form, content, and scheduling of the separate examinations vary from major to major.

**Teaching** All doctoral students are required to complete at least one year of service as an associate instructor in Germanic Studies.

### Ph.D. in Germanic Linguistics and Philology

**Professional courses** Seminars (two required at IU)

C500 3 G825 or G835 4  
C503 3 G825 or G835 4

**Linguistics courses** Literature courses

Four from the G571  
following: G52, Any other literature  
G540, G548, G551, course numbered  
G558, G632, G635, 500 or above  
G638, G639, G640,  
G601 Intro. to Old  
English, G655 Hist.  
of Engl. Lang.

12-14 6

**Dissertation** up to 20 **Outside minor** at least 12

**Total hours** 90

### Ph.D. in Medieval and Early Modern German Literature and Culture

This major is intended as one in medieval literature and culture, and the languages involved are regarded as tools rather than as ends in themselves. The interdepartmental outside minor must be taken in medieval culture. The 30-32 hours of required course work in German literature should include sufficient study of modern literature to prepare the candidate to teach college courses in this area on the second- and third-year levels.

**Professional courses** Seminars

C500 3 G825 or G835 4  
C503 3 G825 or G835 4

**German literature** Germanic linguistics

C571 3 G635 3  
G636 3 G640 3  
G625 (with Recommended:  
medieval topic) 3 any one from  
G825 (with C532, G638, G639 (3)  
medieval topic) 4  
Other literature  
courses 17-19

**Dissertation** up to 20 **Outside minor:**

medieval culture  
Either  
F501 Med. French Lit. I 3  
or  
L505 Medieval Latin 4  
Additional hours  
in med. culture 15-19

18-22

**Total hours** 90

### Ph.D. in Modern German Literature and Culture

**Professional courses** Seminars

(two required at IU)  
C500 3 G825 or G835 4  
C503 3 G825 or G835 4

**Literature courses** Linguistic courses

Any three from: C551 3  
G571 3 Any other linguistic  
G573 3 course numbered 500  
G575 3 or above  
G577 3

9 6

**Dissertation** up to 20 **Outside minor** at least 12

**Total hours** 90

### Outside Minors for the Ph.D.

All three Ph.D. program options in Germanic Studies require the completion of an outside minor. The outside minor is selected in consultation with the graduate director or faculty adviser. Requirements for the outside minor are set by the outside minor department or program (i.e., not Germanic Studies). Please note that Dutch or Yiddish may be selected by Ph.D. students in Germanic Studies as an outside minor.

Some Ph.D. candidates in Germanic Studies complete the minor entirely outside the department, for example in Cognitive Science, French, West European Studies, or Gender Studies. Detailed information about minors offered by other departments and programs can be found elsewhere in this bulletin.

Detailed below are sample minor programs.  
1. **Dutch:** 12 credits, consisting of N402, N403, N404, and N450.

2. **Comparative Literature:** 4 courses in  
Comparative Literature, including C501;  
fluent reading knowledge of at least one  
foreign language.

3. **Cultural Studies:** 4 courses for a minimum  
of 13 credits in courses approved for the  
Cultural Studies program, including C601  
and either C701 or C790. Students must  
officially declare the minor during the early  
phase of their Ph.D. studies by consulting  
with the director of the Cultural Studies  
program. Satisfactory performance on the  
qualifying examinations in the student's  
major department is also required.

4. **English and Germanic Philology:** 4 courses,  
to include English G601 Introduction to Old  
English and at least one of the other older  
Germanic Languages, i.e., German G632,  
G635, G638, G639, and G640. The remaining  
courses may be chosen from English G602  
Introduction to Middle English, G655

History of the English Language, L710  
*Beowulf*, L711 (Old Engl. Lit.), German G532,  
G625 with appropriate topic, G636, G835  
with appropriate topic, and any of the  
remaining older Germanic languages listed.  
Also offered is an **Area Certificate in  
English and Germanic Philology**, requiring  
4 courses in addition to the 4 required for  
the minor. These may include any of the  
courses listed above, as well as courses in  
other departments that are relevant to the  
history and prehistory of the Germanic  
languages, and to early Germanic literature  
and culture.

- Linguistics:** 12 credits in linguistics or related courses, with a grade point average of 3.0 (B) or better. The specific program for satisfying this requirement should be developed in consultation with the linguistics outside minor adviser.
- Yiddish:** 12 credits, consisting of Y502, Y503, Y504; and Y505 or Y506.

**Ph.D. Minor in Germanic Studies** Doctoral students from other departments desiring to minor in Germanic studies will choose one of the following:

- German:** 12 credit hours, including at least two courses numbered 500 or higher.
- German studies:** 15 credit hours, including G563, G564, and V605.
- Netherlandic:** N402, N403, N404, and N450.
- Yiddish:** Y502, Y503, Y504; and Y505 or Y506.

For further information concerning the graduate program in Germanic Studies, see the *Guide to Graduate Study*, issued annually by the department.

### Courses

**G400 Deutsch: Oberstufe (3 cr.)**

**G403 Deutsche Literatur: Mittelalter bis Romantik (3 cr.)**

**G404 Deutsche Literatur seit der Romantik (3 cr.)**

### General Courses

**G500 College German Teaching (3 cr.)**

Required of associate instructors in their first year of teaching. An overview of teaching methodologies, their underlying theories, and their practical application in college-level German courses.

**G503 Introduction to Graduate Study in German Literature (3 cr.)**

Required of graduate students in their first year. Techniques of literary analysis, conventions of scholarly writing, use of bibliographic tools. Methodological approaches of various critical schools applied to selected works. Research paper on a literary text.



**Courses in Germanic Literature and Culture**

**G505 New Literary Theory and the German Text (3 cr.)** P: G503. Survey of literary theory currently used in Germanic studies; differences between theory in German and in American *Germanistik*. Areas such as reception theory, Frankfurt School, structuralism, poststructuralism, psychoanalytic criticism, feminist criticism, New Historicism.

**G563 German Culture Studies I (3 cr.)** R: G363, G464, or HIST B377-B378. The formation of cultural traditions in the German-speaking countries prior to the twentieth century.

**G564 German Culture Studies II (3 cr.)** R: G363, G464, or HIST B378. Culture of the German-speaking countries in the twentieth century.

**G571 Historical Study of German Literature I (3 cr.)** Historical treatment of a literary topic involving substantial developments within the time period before 1600. Topics range from individual genres, types, or movements; to themes or ideas; to sociopolitical contexts of literature or its relationships to other art forms. May be repeated once for credit with different topic.

**G573 Historical Study of German Literature II (3 cr.)** Historical treatment of a literary topic involving substantial developments within the time period between 1600 and 1800. Topics range from individual genres, types, or movements; to themes or ideas; to sociopolitical contexts of literature or its relationships to other art forms. May be repeated once for credit with different topic.

**G575 Historical Study of German Literature III (3 cr.)** Historical treatment of a literary topic involving substantial developments within the time period between 1800 and 1900. Topics range from individual genres, types, or movements; to themes or ideas; to sociopolitical contexts of literature or its relationships to other art forms. May be repeated once for credit with different topic.

**G577 Historical Study of German Literature IV (3 cr.)** Historical treatment of a literary topic involving substantial developments within the time period from 1900 to the present. Topics range from individual genres, types, or movements; to themes or ideas; to sociopolitical contexts of literature or its relationships to other art forms. May be repeated once for credit with different topic.

**G625 Colloquium (3 cr.)** Emphasis on a particular topic, author, or genre, to be announced in advance. Assigned readings, reports, discussions. May be repeated.

**G627 Lyric (3 cr.)** Interpretation of lyric poetry as an expression of changing aesthetic values and social concerns. Selections from major literary periods from the Middle Ages to the present.

**G636 Old Icelandic Literature (3 cr.)** P: G635 or equivalent. Medieval Icelandic poetic and prose literary texts; history of the literature. Some consideration of medieval Norwegian, Swedish, and Danish literature.

**G815 Individual Readings (1-3 cr.)** Guided readings in Germanic literature, linguistics, and culture. May be repeated.

**G820 Research Tutorial (1-3 cr.)** Work under faculty supervision that results in a scholarly paper, lecture, translation, bibliography, syllabus, or comparable product. May be repeated for credit once with a different topic.

**G825 Seminar in German Literature (4 cr.; may be repeated)**

**G850 Master's Project (1 cr.)** Revision and oral defense of a substantial research paper originally written for a graduate course in Germanic Studies.

**G875 Research in German Literature (cr. arr.)\***

**V605 Selected Topics in German Studies (2-4 cr.; 12 cr. max.)**

**V815 Individual Readings in German Studies (1-8 cr.; may be repeated)**

**Courses in Germanic Linguistics**

**G532 History of the German Language (3 cr.)** Development from Primitive Germanic to New High German; German dialect geography. German as a member of the Germanic family and of the European linguistic area.

**G540 Acquisition of German as a First and Second Language (3 cr.)** P: knowledge of German; graduate standing or permission of instructor. Introduction to recent generativist scholarship on acquisition of German as a first and second language. Consideration of broader theoretical issues. No prior knowledge of linguistics assumed.

**G548 German Phonetics and Phonology (3 cr.)** Introduction to phonetics and phonology of modern German with emphasis on description, analysis, and theory. Relevance of German data to issues in phonological theory.

**G551 Structure of Modern German (3 cr.)** Structural problems in the grammar of Modern Standard German, investigated by means of various current methodological approaches.

**G558 Principles of German Morphology (3 cr.)** In-depth study of the principles underlying word formation (morphology) in German. Comparative study of inflection, derivation, and compounding in German and English. Relevance of German data to morphological theory.

**G632 Gothic (3 cr.)** Transition from Indo-European to Germanic. History and development of Germanic dialects, with

emphasis on prehistory of English and German. Comparative and descriptive analysis of Gothic phonology, morphology, and syntax.

**G635 Old Icelandic (3 cr.)** Descriptive grammar. Survey of literature and extensive reading of prose and poetry. History of Scandinavian in comparison with other Germanic languages.

**G638 Old High German (3 cr.)** Descriptive and comparative analysis of Old High German texts, with their dialect features.

**G639 Old Saxon (3 cr.)** Study of the Old Saxon (Old Low German) language. Readings from the *Heliand* and brief examination of other OS documents.

**G640 Middle High German (3 cr.)** Introduction to Middle High German language, literature, and culture. Translation, linguistic analysis, and close reading of selections from major texts of the period 1170-1220.

**G835 Seminar in Germanic Linguistics (4 cr.; may be repeated)**

**G885 Research in Germanic Linguistics (cr. arr.)\***

**Courses in Netherlandic**

**N401 Intensive Dutch I (3 cr.)** Development of speaking ability, with stress on pronunciation, leading to fluency on restricted topics. Introduction to grammar. Reading of annotated stories.

**N402 Intensive Dutch II (3 cr.)** P: N401 or consent of instructor. Completion of grammatical study begun in N401; continued stress on speaking Dutch on selected topics; rapid expansion of reading ability using literary and cultural materials.

**N403 Dutch Reading, Composition, and Conversation I (3 cr.)** P: N402 or consent of instructor. Development of oral fluency; attention to idiom. Further grammatical study; attention to formal writing style. Readings in Dutch literature and culture.

**N404 Dutch Reading, Composition, and Conversation II (3 cr.)** P: N403 or consent of instructor. Further development of style and idiom in speaking and writing. Reading of novels. Oral and written practice on topics of contemporary Dutch life.

**N450 Introduction to the Civilization of the Netherlands (3 cr.)**

**Courses in Scandinavian Languages for Researchers (3 cr.)** Introduction to the structure of Swedish, Norwegian, and Danish necessary for reading, followed by critical reading in texts in the area of Scandinavian studies.

\*Four (4) credit hours for undergraduates.

**Courses in Yiddish**

**Y501 Beginning Yiddish I (3 cr.)** No previous knowledge of Yiddish or German required. Introduction to the Yiddish language and selected aspects of Yiddish-language culture. Development of listening comprehension, simple proficiency, controlled reading and writing skills. Taught in alternate years.

**Y502 Beginning Yiddish II (3 cr.)** P: Y501 with grade of C- or higher or equivalent. Introduction to the Yiddish language and selected aspects of Yiddish-language culture. Development of listening comprehension, simple proficiency, controlled reading and writing skills. Taught in alternate years.

**Y503 Intermediate Yiddish I (3 cr.)** P: Y502 or consent of instructor. Development of speaking, reading, writing, and listening skills. Review of basic grammar and study of new grammatical topics. Reading of short fictional texts and other writings on Jewish culture. Taught in alternate years.

**Y504 Intermediate Yiddish II (3 cr.)** P: Y503 or consent of instructor. Continuing development of active and passive skills. Additional new grammar concepts. Emphasis on development of reading skills and cultural knowledge through literary and journalistic texts, including texts in non-standardized orthographies. Taught in alternate years.

**Y505 Modernity and Tradition in Yiddish Literature and Culture (3 cr.)** No knowledge of Yiddish required. Study of selected authors and topics in Yiddish literature and culture. Taught in English.

**Y506 Yiddish Culture in America (3 cr.)** Interdisciplinary approach to Jewish culture in the United States from the 1890s to the 1990s. Major figures, institutions, and trends in American Yiddish literature and popular culture; representations of the new and the old world, and the place held by Yiddish literature and culture in the post-Holocaust era. Taught in English.

**Courses for Graduate Reading Knowledge**

**G491 Elementary German for Graduate Students (3 cr.; no grad. cr.)<sup>1</sup>**

**G492 Readings in German for Graduate Students (3 cr.; no grad. cr.)<sup>1</sup>**

## Health, Physical Education, and Recreation

School of Health, Physical Education, and Recreation  
Bloomington

Dean Professor Tony Mobley



Departmental e-mail: hper@indiana.edu

Departmental URL: <http://www.indiana.edu/~hperweb/>

## Graduate Faculty

**Professors** Anita Aldrich (Emerita), David Austin, Herbert Brantley (Emeritus), John Cooper (Emeritus), James Counsilman (Emeritus), James Crowe, Jesus Dapena, Evelyn Davies (Emerita), Theodore Deppe (Emeritus), Ruth Engs, Alan Ewert, Lawrence Fielding, David Gallahue, Leroy Getchell (Emeritus), Barbara Hawkins, David Kocelj, Donald Ludwig (Emeritus), Janet MacLean (Emerita), Joel Meier, Tony Mobley, Harold Morris, Mary Lou Remley (Emerita), Thomas Rillo (Emeritus), Ruth Russell, John Seifrin, Clinton Strong (Emeritus), Paul Surburg, Mohammad Torabi, Wynn Updyke (Emeritus), William Yarber

**Associate Professors** Robert Billingham, David Birch, \*Russell Brayley, William Brechue, S. Kay Burrus, \*Nancy Ellis, \*Alyce Fly, Kathleen Gilbert, Lynn Jamieson, Douglas H. Knapp, \*Alice Lindeman, W. Donald Martin (Emeritus), Daniel McLean, John Raglin, Craig Ross, Gary Sailes, \*Nathan Shier, Lois Silverman, \*Joel Stager, Janet Wallace

**Assistant Professors** Donetta Cothran, \*Dennis Daniels, \*Deborah Fravel, \*Bryan McCormick, \*Nellie Morales, \*Thomas Tai-Seale, \*Vassilios Vardaxis\*

**Associate Dean, Academic Program Administration** Associate Professor, S. Kay Burrus, Health, Physical Education, and Recreation Building 121; (812) 855-5434

**Degrees Offered** Doctor of Philosophy in human performance with options in health behavior, human performance, and leisure behavior. In addition, the School of Health, Physical Education, and Recreation offers the following graduate degrees: Master of Science in Applied Health Science, in Kinesiology, and in Recreation; Master of Public Health, Director of Recreation; and Doctor of Health and Safety of Physical Education, and of Recreation. For full information see the School of Health, Physical Education, and Recreation Bulletin.

The Ph.D. is a research degree especially designed to prepare graduates for careers in fields devoted to the study of health behavior, human performance and leisure behavior. Specific emphases currently available in human performance include adapted physical education, biomechanics, exercise physiology, and motor learning/control. Other areas of study are also available for graduate degrees offered through the School of Health, Physical Education, and Recreation.

## Special School Requirements

(See also general Graduate School requirements.)

### Doctor of Philosophy

**Degree Admission Requirements** Applicants for the Ph.D. in human performance must possess at least the equivalent of an undergraduate minor in the field of study to be pursued. Appropriate academic background in the physical, biological, and social and behavioral sciences is required. Prescribed deficiency work ordinarily cannot be counted among credit hours required for the degree. Other admission criteria are grade point averages earned over all undergraduate and graduate work, scores on the Graduate Record Examination General Test, and letters of recommendation from professors or others who are able to evaluate the applicant's potential for success in advanced graduate study.

**Course Requirements** A minimum of 90 credit hours beyond the baccalaureate degree, of which at least 30 credit hours must be in the major area of emphasis in human performance. The remaining credit hours are to be distributed among the minor(s), supportive electives that include a substantial amount of work in statistics and research methodology, and dissertation (20-30 credit hours). Fifteen (15) credit hours excluding courses taken to complete the "Research and Languages" requirement are required outside of the School of Health, Physical Education, and Recreation.

Elective or minor course work must clearly support the development of research competency in the major field. Frequent involvement in research projects (with or without academic credit) is essential to the program. Deficiencies in course work must be removed during the first year of study. All Ph.D. students must present T590 and T591, or their equivalents, as prerequisites to the major work.

**Grades** All doctoral students must maintain a grade point average of at least 3.0 (B). Grades of C- (1.7) and below will be calculated in the student's grade point average, but courses in which such grades are earned cannot be counted toward degree requirements.

**Minors(s)** At least one minor in a supporting area outside the major department is required, which must be in a discipline related to, but distinct from, the major field(s) of study. The number of required credit hours is determined by the unit in which the minor is taken (usually 12-15).

### Foreign Language/Research Skill Requirement

One of four options:

1. reading proficiency in two languages;
2. proficiency in depth in one language;
3. reading proficiency in one language plus an approved research skill;
4. other approved combination of research skills (9 credit hour minimum).

The option pursued must clearly enhance the student's ability to pursue research in the specific field of study and must have the approval of the student's advisory committee and the associate dean of academic program administration.

Research skills may be selected from, but are not limited to, areas such as computer science, mathematics, electronics, engineering, chemistry, and statistics.

**Qualifying Examination** Written and oral; may not be taken until all prescribed course work and the foreign language/research-skill requirement have been completed.

Examination periods are regularly scheduled for September, February, and June. Applications must be filed at least 30 days in advance.

**Research Proposal** The proposal meeting will be open to faculty and students in the university community. During the first portion the student will formally present her/his dissertation proposal in an open forum. Committee members and visitors will have the opportunity to ask questions. Visitors will leave after the formal presentation. The remaining time will be determined by the student's research committee.

**Final Examination** Oral defense of the dissertation.

**Ph.D. Minor in Human Performance** Doctoral students in other departments can complete a minor in human performance by satisfactorily completing 15 credit hours of graduate-level course work which has been approved by the minor field representative on the doctoral advisory committee. A qualifying examination is required. No more than 6 of the required 15 credit hours may be transferred from another institution.

### Courses

Complete course listings for the Ph.D. in human performance can be found in the School of Health, Physical Education, and Recreation Bulletin. For additional information, see also the *HPER Graduate Student Handbook*.

# History

BLOOMINGTON PROGRAM

College of Arts and Sciences

Chairperson Professor John Bodnar

## Graduate Faculty

**Distinguished Professors** Robert Ferrell (Emeritus), Edward Grant (Emeritus, History and Philosophy of Science), Denis Sinor (Emeritus, Central Eurasian Studies), Gerald Strauss (Emeritus)

**Ruth Halls Professor** Phyllis Martin

**Mendel Chair in Latin American History** Daniel James

**University Professor** Norman Pounds (Emeritus)

**Professors** Judith Allen, Maurice Baxter (Emeritus), John Bodnar, George Brooks, Donald Carmony (Emeritus), William Cohen, Nancy Demand, James Diehl, Dyan Elliott, Jurgis Elisonas (East Asian Languages and Cultures), Lawrence J. Friedman, Jeffrey Gould, Michael Grossberg, Charles Jelavich (Emeritus), George Juergens (Emeritus), Wade Jwaideh (Emeritus, Near Eastern Languages and Cultures), Herbert Kaplan (Emeritus), Irving Katz, Hiroaki Kuromiya, James Madison, Howard Mehlinger (Emeritus, Education), Irene Neu (Emerita), M. Jeanne Peterson, Otto Pflanze (Emeritus), David Pletcher (Emeritus), Robert Quirk (Emeritus), Alexander Rabinowitch (Emeritus), David Ransel, James Riley, Bernard Sheehan (Emeritus), Lynn Struve, David Thelen, George M. Wilson (East Asian Languages and Cultures)

**Associate Professors** George Alter, Ann Carmichael, Claude Clegg, Nick Cullather,\* Ellen Dwyer, John Efron, Ben Eklof, Arthur Field, Wendy Gamber,\* Peter Guardino, John Hanson,\* Michael McCerr, Muriel Nazzari (Emerita), David Pace, Leah Shopkow,\* Steven Stowe, Jeffrey Wasserstrom

**Assistant Professors** Arlene Diaz,\* Carl Ipsen

**Adjunct Professors** David Nord (Journalism), Toivo Raun (Central Eurasian Studies), Richard Rubinger (East Asian Languages and Cultures), Steven Stein (Religious Studies)

**John W. Hill Assistant Professor** Maria Bucur-Deckard\*

**Adjunct Associate Professors** James Capshew (History and Philosophy of Science), Allen Douglas (West European

Studies), Michael Robinson (East Asian Languages and Cultures)

**Director of Graduate Studies** Professor William Cohen, Ballantine Hall 702, (812) 855-8234

**Degrees Offered** Master of Arts, Master of Arts for Teachers, dual Master of Arts and Master of Library Science (jointly with the School of Library and Information Science), and Doctor of Philosophy

The graduate program in history at Indiana University includes formal course work and opportunities for independent study in nearly all recognized fields, both chronological and geographical. Moreover, the department is strongly committed to interdisciplinary programs, and it works closely with area studies programs, journals, and historical organizations. The graduate program is designed to help students in the development of their knowledge and of their critical and analytical skills. Courses and programs in the Department of History prepare students for work as professional historians in a variety of settings: in public history, editing, librarianship, and government service, as well as in historical research and teaching at all levels.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** (1) Bachelor's degree from a recognized institution, including 24 undergraduate credit hours in history, an overall undergraduate B (3.0) average, and a superior record in history; (2) appropriate level of achievement on the Graduate Record Examination General Test; and (3) three letters of recommendation.

**Grades** No grade below B - (2.7) in history courses will be counted toward this degree.

**Course Requirements** One seminar, one colloquium, and other courses for a total of 30 credit hours; 20 of these credit hours must be in history, of which 12 must be in courses numbered 500 or above. Normally, neither H575 nor H580 may count toward the latter requirement.

**Foreign Language Requirement** Reading proficiency in one of the following languages: Arabic, Chinese, French, German, Ancient Greek, Italian, Japanese, Latin, Portuguese, Russian, Spanish, or another language appropriate to the student's program of study, if approved by the University Graduate School.

Students may demonstrate proficiency by any of the three methods normally sanctioned by

the University Graduate School or by passing a reading examination prepared by members of the history department faculty. The examination includes two texts of approximately 400 words each, one drawn from primary historical sources and the other typically drawn from historiographical sources. A student will be expected to translate the first text and answer critical questions about the second.

**Final Examination** None, unless the student has a grade point average less than 3.3 in history courses, in which case an oral examination is required.

**Field Review** M.A. candidates wishing to enter the Ph.D. program and those terminating their program with the master's degree must be recommended for the M.A. degree by the appropriate field committee.

### Master of Arts for Teachers Degree

**Admission Requirements** Same as for the Master of Arts degree except that reading ability in a foreign language is not required.

**Grades** No grade below B - (2.7) in history courses will be counted toward this degree.

**Course Requirements** A361, A362, B391, and others for a total of 20 or more credit hours in history and 36 credit hours in all courses.

**Foreign Language Requirement** None.

**Final Examination** None.

### Dual Master of Arts and Master of Library Science Degrees

Study for these two degrees can be combined for a total of 50 credit hours rather than the 66 credit hours required for the two degrees taken separately. Students take 20 credit hours in history as outlined above under course requirements for the Master of Arts degree and 30 credit hours of library science, including L503, L505, L507, L520, L524, L528, L586 (or History H547 Archives), L596, and L625 plus 3 credit hours of electives in SLIS. Admission to each of the two areas of study is approved separately on the same basis as for other applicants not in the dual program.

### Doctor of Philosophy Degree

**Admission Requirements** (1) Completion of the M.A. degree at Indiana University or another recognized institution, (2) a superior record in history, (3) certification in one foreign language, and (4) review and approval by a field committee consisting of faculty in the student's major field. For students with an M.A. degree from Indiana University, this review must take place by the end of a student's third semester of full-time graduate

study; for other students, this review is done by a subcommittee prior to admission. An Indiana University student not recommended for admission to the Ph.D. program by the field committee may have the decision reviewed after taking a special written examination in the major field during the next testing period.

**Grades** No grade below B - (2.7) in history courses will be counted toward this degree.

**Course Requirements** At least two seminars, which must be taught by different instructors and must include one in the major field; three or more colloquia in at least two fields; and other courses at the graduate level to prepare the student in three fields (two in history, one outside) for a total of at least 60 credit hours. Students complete the remainder of the 90 credit hour requirement by enrolling in H899 Ph.D. Dissertation.

### Foreign Language/Research Skill Requirement

Reading proficiency in two of the following languages: Arabic, Chinese, French, German, Ancient Greek, Italian, Japanese, Latin, Portuguese, Russian, Spanish, or others appropriate to the student's program of study, if approved by the University Graduate School. Proficiency may be demonstrated by the means indicated under the heading "Foreign Language Requirement" in the section on the M.A. degree. As a substitute for the second language in certain fields, the student may demonstrate proficiency in an approved research skill clearly useful for the study of history; the choice of a specific skill is subject to the approval of the student's advisory committee and the department's director of graduate studies. With the necessary approval, a student may demonstrate proficiency by earning a grade of B+ (3.3) or better in a two-course methodological sequence such as History H540 and H541, Anthropology E500 and E606, Folklore F516 and F517, Journalism J500 and J520, and Telecommunications T501 and T510. A student may also demonstrate proficiency in the use of a research skill by achieving an appropriate score on a written examination prepared by members of the history department faculty. The above requirements must be met by the time the student has completed no more than 30 credit hours beyond the M.A. or has been admitted to the Ph.D. program. Some fields, such as Latin American history and ancient history, require proficiency in additional languages.

**Qualifying Examination** Written examination in the major field and oral examination in the concentration area of the major field and the inside minor field. Examination in the outside minor field, if

required by the minor-field department. Historical fields to be selected from the following: Africa, ancient, East Asia, Eastern Europe, Great Britain, Latin America, medieval Europe, early modern Europe, modern Europe, Middle East, Russia, United States. With the approval of their advisory committee and the director of graduate studies, students may substitute a thematic field for the inside minor field. Thematic fields shall not duplicate the major field and shall involve substantial work in other fields. Written examinations are given in October and February only.

Registration must be made at least 30 days in advance. All language and course requirements, including 60 credit hours of work carrying graduate credit, must be completed by the end of the term during which the written and oral examinations are taken. Qualifying examinations are usually completed by the end of the seventh semester, unless the student's advisory committee and the director of graduate studies agree that an extension is justified. Written qualifying examinations in the outside minor field are at the discretion of the departments involved. The faculty representative of the outside minor department normally participates in the oral qualifying examination.

### Termination of Enrollment in the Doctoral Program

If a doctoral student fails the written examination in any history field two times, fails the oral qualifying examination two times, falls below a 3.0 (B) grade point average, fails to meet the language/research-skill requirement by the time 30 credit hours of post-M.A. credit have been earned, or fails to complete the written and oral qualifying examinations by the end of the approved length of time, the director of graduate studies, in consultation with the advisory committee, can initiate steps to terminate the student's enrollment in the program. The student, however, may make a formal appeal to be given a third chance to pass the qualifying examinations or to be given additional time to raise the grade point average or to complete the qualifying examination. If the appeal is denied, the director of graduate studies will recommend to the dean of the University Graduate School that the student's enrollment in the doctoral program be terminated.

**Final Examination** Oral defense of dissertation.

**Ph.D. Minor in History** Students in other departments may minor in history by completing, with a grade point average no lower than B (3.0), at least 12 credit hours of course work in history, including one colloquium. No more than 6 credit hours of work transferred from another university may be applied toward this requirement, and such

credit must be approved by the director of graduate studies in the Department of History. To arrange for a history minor, students should consult the director of graduate studies, who will recommend a member of the faculty to serve as an advisor. In consultation with the advisor, a program of study will be outlined and a copy of the plan filed with the director of graduate studies. Upon completion of the course work, either the student's history advisor or the director of graduate studies will attest to the successful completion of the outside minor.

Further information regarding departmental regulations governing advanced degree programs may be found in *A Guide to Graduate Studies in History*, available on request from the department, Ballantine Hall 702.

### Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Bloomington campus during the academic years 2000-2002. Consult the *Schedule of Classes* for a listing of the courses to be offered each semester.

A301	B355	D525	H610
A302	B356	D527	H615
A303	B357	D528	H620
A304	B359	E531	H630
A313	B360	E532	H640
A315	B361	E533	H645
A317	B362	E534	H650
A326	B364	E536	H665
A329	B366	F538	H675
A330	B377	F543	H685
A337	B378	F546	H695
A338	B391	G465	H699
A339	B568	G567	H710
A340	C386	G568	H715
A345	C388	G569	H720
A346	C391	G582	H730
A347	C392	G583	H740
A353	C393	G585	H745
A354	C394	G587	H750
A355	C580	H500	H765
A356	D401	H523	H775
A361	D418	H540	H785
A362	D419	H541	H898
A507	D430	H543	H899
B351	D506	H575	T500
B352	D510	H580	
B353	D521	H591	
B354	D522	H605	

## INDIANAPOLIS PROGRAM

School of Liberal Arts

**Chairperson** Associate Professor Philip V. Scarpino

**Departmental e-mail:** histdept@iupui.edu

**Departmental URL:**  
http://www.iupui.edu/~history

### Graduate Faculty

**Mary O'Brien Gibson Professor** John McKivigan

**Professors** David J. Bodenhamer, Bernard Friedman (Emeritus), Ralph Gray (Emeritus), Miriam Z. Langsam,\* William H. Schneider, Peter Sehlinger (Emeritus), Scott Seregny,\* Jan Shipps (Emerita)

**Associate Professors** Robert Barrows,\* Kenneth Cutler,\* Justin Libby, Monroe Little,\* Elizabeth Brand Monroe,\* Berthold Riesterer (Emeritus)\* Kevin Robbins,\* Philip Scarpino,\* Marianne Wokeck,\* Xin Zhang\*  
**Assistant Professors** Anita Ashendel,\* Annie Gilbert Coleman,\* Sheila Cooper,\* Wietse de Boer,\* Ch. Didier Gondola,\* Stephen Heathorn,\* Nancy Robertson\*

**Director of Graduate Studies** For graduate student information, contact Cavanaugh Hall 504L, (317) 274-5840.

**Degrees Offered** Master of Arts, dual Master of Arts and Master of Library Science, dual Master of Arts in History and Philanthropic Studies

The M.A. program in history on the Indianapolis campus offers three areas of concentration: United States history, European history, and public history. United States and European history are traditional areas of concentration and will serve the needs of persons intending to pursue a doctoral program, those seeking a collateral degree to complement such other fields as education or library science, and those individuals seeking personal fulfillment. Public history is designed to prepare persons interested in pursuing careers as historians in such settings as historical societies, museums, historic preservation organizations and historic parks, governmental agencies, and business corporations. With its proximity to a large number of such institutions, the Indianapolis campus is an ideal location at which to pursue a degree in public history.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

according to University Graduate School standards.

### Dual Degree: Master of Library Science and Master of Arts in History

Study for these two degrees can be combined for a total of 50 credit hours rather than the 66 credit hours required for the two degrees if taken separately. Students take 20 credit hours in history, which must include one graduate seminar and one graduate colloquium. No thesis is required for students earning an M.A. degree in history who are also earning a Master of Library Science under this dual degree program. However, students must satisfy the foreign language proficiency requirement as spelled out in the University Graduate School Bulletin. No area of concentration is required, but students wishing to focus on public history for the M.A. in history must also include History H542 among the required 20 credits of history course work. Such students may, if they wish, do a public history internship and count a maximum of 2 credit hours of History H543 toward the degree. (Students may enroll in H543 only after having taken or while taking H542.)

The remaining 30 credit hours of library science courses include L503, L505, L507, L520, L524, L528, L586 (or History H547 Archives), L596, and L625 plus 3 credit hours of electives in SLIS. Admission to each of the two master's programs is approved separately on the same basis as for other applicants not in the dual program.

### Dual Degree: Master of Arts in History and Master of Arts in Philanthropic Studies

The dual M.A. in History and M.A. in Philanthropic Studies creates a unique opportunity to pursue critical inquiry into the historical, cultural, philosophical, and economic implications of voluntary action for the public good. Historians routinely study the role of nonprofit organizations, self-help groups, and philanthropic institutions. This dual degree program offers an interdisciplinary focus on the past, present, and future. This degree will be attractive to students wishing to pursue: (1) careers that demand the skills and talents developed by cross-training in history and philanthropy; or (2) doctoral programs that encourage new and creative approaches to the historical study of philanthropy, broadly defined.

Admission requirements for the dual degree program are identical to those for each program separately. A separate application

### Master of Arts Degree

**Admission Requirements** (1) Bachelor's degree from an accredited college or university, with an overall undergraduate grade point average of at least 3.0 (B) and a minimum grade point average of 3.0 (B) in the student's undergraduate major (an undergraduate major in history is not required, but applicants without such a background may be required to take additional course work in history at the undergraduate level as a condition for acceptance into the program); (2) appropriate level of achievement on the Graduate Record Examination General Test; (3) three letters of recommendation; and (4) two years of foreign language as an undergraduate with appropriate level of achievement.

**Grades** No grade below B- (2.7) in history courses will be counted toward this degree.

**Course Requirements** Students pursuing any one of the three concentration areas must take H500 or H501. Those electing United States history must take at least one graduate colloquium and one graduate seminar in United States history and at least one course in non United States history. Students electing European history must take a graduate colloquium and seminar in that area and at least one course outside their concentration. With the consent of their faculty advisor, students may take as many as 6 credits outside the Department of History. Six (6) credits will be granted upon successful completion of the required master's thesis. A total of 30 credit hours is required for students concentrating in United States and in European history.

Students choosing public history as their area of concentration must take H500 or H501, H542, a colloquium and seminar in United States history, and do an internship. Four (4) hours of credit will be granted upon satisfactory completion of the internship project. Public history students must also take at least one course outside United States history. With the consent of their faculty advisor, they may take as many as 6 credits outside the Department of History. Two (2) credits will be granted upon successful completion of the required public history paper. A minimum of 36 credit hours is required for students concentrating in public history.

**Foreign Language Requirement** None required for the degree. However, if a student has not met the foreign language admission requirement, that deficiency must be removed prior to the thesis defense. Students planning to go on for the Ph.D. are urged to validate their reading proficiency in a foreign language

must be made to each of the programs. Prospective students are expected to take responsibility for learning about and meeting the different admission requirements and deadlines of each department. Students must make plans early with advisors in both programs to identify (1) common courses and (2) a thesis topic.

Study for these two degrees can be combined for a total of 51 credit hours (U.S. or European History concentrations) or 54 credit hours (Public History) rather than the 66 or 72 credit hours that would be required if the two degrees were taken separately. For all concentrations, the required 700-level seminar for the M.A. in history may be selected as an elective to meet the philanthropic studies requirement for one of two theoretical electives. The required philanthropic studies course HIST H509 History of Philanthropy in the West may be taken to meet the history requirement for a history elective. Required courses PHIL P542, Ethics and Values of Philanthropy, or PHST P512, Human and Financial Resources for Philanthropy, may be taken to meet three credits of the six credits of outside electives that may be taken in the History program. For public history students, HIST H543 Practicum meets the requirement for PHST P590 Internship for the Philanthropic Studies program. A common thesis meets the requirements of both departments.

Further information regarding departmental regulations governing advanced degree programs may be found in *A Guide for History Graduate Students*, available on request from the department, Cavanaugh Hall 504L.

## Courses Offered

The following courses, which are drawn from the complete list below, have been offered on the Indianapolis campus during recent years.

A301	A410	C388	H521
A302	A421	D313	H542
A303	B351	D314	H543
A304	B352	D528	H546
A313	B353	E532	H547
A314	B354	F341	H575
A315	B355	F342	H620
A317	B356	F432	H630
A325	B357	C467	H640
A326	B359	C468	H650
A345	B360	G585	H665
A346	B361	H425	H699
A347	B362	H500	H720
A348	B393	H501	H730
A364	B421	H509	H750
A402	C386	H511	H898

## Courses

- A301-A302 American Colonial History I-II (3-3 cr.)
- A303-A304 United States, 1789 to 1865 I-II (3-3 cr.)
- A313 Origins of Modern America (3 cr.)
- A314 The United States, 1917-1945 (3 cr.)
- A315 United States since World War II (3 cr.)
- A317 American Social and Intellectual History (3 cr.)
- A325-A326 American Constitutional History I-II (3-3 cr.)
- A329-A330 Social History of American Enterprise I-II (3-3 cr.)
- A337-A338 The American Frontier I-II (3-3 cr.)
- A339-A340 History of the South I-II (3-3 cr.)
- A345-A346 American Diplomatic History I-II (3-3 cr.)
- A347 American Urban History (3 cr.)
- A348 Civil War and Reconstruction (3 cr.)
- A352 History of Latinos in the United States (3 cr.)
- A353-A354 American Economic History I-II (3-3 cr.)
- A355-A356 Afro-American History (3-3 cr.)
- A361-A362 Studies in American History for Teachers I-II (3-3 cr.)<sup>1</sup>
- A364 History of Black Americans (3 cr.)
- A371-A372 History of Indiana I-II (3-3)
- A402 Readings in American Environmental History (3 cr.)
- A410 American Environmental History (3 cr.)
- A421 Topics in United States History (3 cr.)
- Intensive study and analysis of selected historical issues and/or problems in United States history. Topics will vary from semester to semester.
- A507 American Cultural History (3 cr.)
- Central topics in American cultural life and thought from the late nineteenth century to the present. Special focus on the changing sense of personal selfhood among specific ethnic and religious groups, social classes, genders, and professions. Examination of how this changing sense has manifested itself in cultural forms.
- B341 History of Spain and Portugal (3 cr.)
- B351 Western Europe in the Early Middle Ages (3 cr.)
- B352 Western Europe in the High and Later Middle Ages (3 cr.)
- B353 The Renaissance (3 cr.)
- B354 The Reformation (3 cr.)
- B355 Europe: Louis XIV to French Revolution (3 cr.)

B356 French Revolution and Napoleon, 1763-1815 (3 cr.)

B357 Modern France (3 cr.)

B359-B360 Europe from Napoleon to the First World War I-II (3-3 cr.)

B361-B362 Europe in the Twentieth Century I-II (3-3 cr.)

B363-B364 European Diplomatic History since 1870 I-II (2-2 cr.)

B366 Paris and Berlin in the 1920s: A Cultural History (3 cr.)

B377-B378 History of Germany since 1648 I-II (3-3 cr.)

B383-B384 European Intellectual History I-II (3-3 cr.)

B391 Themes in World History (3 cr.)

B393 German History: From Bismarck to Hitler (3 cr.)

B421 Topics in European History (3 cr.)

H523 The Holocaust (3 cr.)

Intensive introduction to the historical events and intellectual developments leading up to and surrounding the destruction of European Jewry during World War II. The Holocaust will be examined against the backdrop of modern Jewish and modern German history.

B568 Modern Italy (3 cr.)

Risorgimento and unification; liberal Italy and the mutilated victory (WWI); Italian opera; Fascism; alliance with Nazi Germany and defeat (WWII); Christian Democrats vs. Communists; major cultural movements; the economic miracle; the Mafia; left- and right wing violence and terrorism; the kickbacks scandal and the Second Republic.

C386 Greek History (3 cr.)

C388 Roman History (3 cr.)

C391 History of the Medieval Near East (3 cr.)

C392 History of the Modern Near East (3 cr.)

C393 Ottoman History (3 cr.)

C394 Inner Asia before the Mongol Conquest (3 cr.)

C580 History of Ancient Medicine (3 cr.)

Covers the history of ancient medicine in Mesopotamia, Egypt, Greece (Homeric, Hippocratic, and Asclepiian), China, India, Alexandria, and Rome (Soranus, Galen, and the medical service of the Roman army), and modern uses of humoral theory. Major focus is on the Hippocratic treatises as primary sources.

D313 Russian Social and Cultural History, 1801-1917 (3 cr.)

D314 Soviet Social and Cultural History (3 cr.)

D401-D402 History and Civilization of the Byzantine Empire I-II (3-3 cr.)

D418 Russian and Soviet Foreign Policy in the Twentieth Century (3 cr.)

D419 The Mongols and Medieval Europe (3 cr.)

D430 History of the Eastern and Southern Baltic Region (3 cr.)

D506 Muscovy and Imperial Russia, 1500-1801 (3 cr.)

D510 Russian Revolutions and the Soviet Regime (3 cr.)

D521 Hungarian History and Civilization to 1711 (3 cr.)

D522 Hungarian History and Civilization, 1711-1918 (3 cr.)

D525 Path to Emancipation: Nationalism in the Balkans, 1804-1923 (3 cr.)

D527 The People vs. The Emperor: Nation-Making and Imperial Decline in East Central Europe, 1780-1918 (3 cr.)

D528 The Search for European Integration: Eastern Europe in the Twentieth Century (3 cr.)

E531 African History from Ancient Times to Empires and City States (3 cr.)

Origins and groupings of African peoples; political, social, and economic evolution to ca. 1750; Africa's contacts with the ancient world, trans-Saharan and Indian ocean trades; growth of states and empires; spread of Islam.

E532 African History from Colonial Rule to Independence (3 cr.)

The slave trade and its abolition; European imperialism and colonial rule; impact of Islam and Christianity; nationalism and the struggle for independence; reassertion of African culture and identity; development issues.

E533 Conflict in Southern Africa (3 cr.)

Early populations and environment; spread of European settlement; interaction with African societies and early race relations; Zulu power and white power; discovery of minerals and industrialization; urbanization and segregation; African and Afrikaner nationalism; south Africa and its neighbors; Mandela and the new South Africa.

E534 History of Western Africa (3 cr.)

E536 History of East Africa (3 cr.)

Developments over the past two millennia in East Africa (Ethiopia, Somalia, Kenya, Uganda, Tanzania, Malawi, and northern Mozambique). Topics include the environment and peoples of the region, the emergence of hierarchical societies, the economic and political changes of the nineteenth century, the era of European imperialism, the transformations associated with the colonial period, and African independence.

E538 History of Muslim West Africa (3 cr.)

Introduction to the history and historiography of Muslim West Africa; develops the origins of Islam in West Africa and the ways West Africans have incorporated, transformed, and

<sup>1</sup>May be counted toward requirements for the M.A.T. degree only when taken on graduate level.

amplified Muslim beliefs and practices throughout history.

**F341 Latin America: Discovery, Conquest, and Empire (3 cr.)**

**F342 Latin America: Evolution and**

**Revolutions since Independence (3 cr.)**  
**America (3 cr.)**

**F346 Modern Central American History (3 cr.)**  
Studies social, economic, cultural, and political development from 1821 to 1990. Major topics include coffee and liberalism, United States and Nicaragua, the era of reform, revolution and counter-revolution.

**F543 Modern Brazil since 1850 (3 cr.)**

**F546 Modern Mexico (3 cr.)** Places contemporary Mexico in historical perspective, focusing on the nineteenth and twentieth centuries. Topics include nineteenth-century social and political movements; the causes and consequences of the 1910 revolution, the formation of Mexico's political system, problems of economic growth, and the changing patterns of gender, class, and ethnicity in Mexican society.

**G465 Chinese Revolutions and the Communist Regime (3 cr.)**

**G467 Traditional Japan (3 cr.)**

**G468 Early Modern Japan (3 cr.)**

**G567 Premodern Japan (3 cr.)** Society and culture on the Japanese archipelago from their origins to the high middle ages. Prehistoric Jomon and protohistoric Yayoi. Formation of the Japanese state under the influence of Chinese and Korean models. Heian courtly culture. Ascendancy of military elites and developments in popular culture during Kamakura and Muromachi periods.

**G568 Early Modern Japan (3 cr.)** Samurai culture, expansion of Buddhism, and sectarian violence. High feudalism, unification, and the Tokugawa settlement after 1600. Encounter with European civilization, closed country. Urbanization, social and cultural change, rise of agrarian prosperity in the Edo period to about 1800.

**G569 Modern Japan (3 cr.)** Western impact and social and intellectual change in late Tokugawa Japan from about 1720. The Meiji Restoration. State capitalism and the Japanese development process. Empire, war, defeat, U.S. occupation, and renewal in the twentieth century. Japan's rise to the front rank of world economic powers after World War II.

**G580 Early China (3 cr.)** China from its neolithic background through the Qin and Western Han dynasties. Examines the Shang tribal polity, royal and aristocratic phases of the Zhou state, and the creation of the imperial system in the Qin-Han period. Changing patterns of ideology, political legitimacy, and

social organization through archaeological and textual sources.

**G582 Imperial China I (3 cr.)** The Chinese empire from the Han through the Tang dynasties (second century B.C. through tenth century A.D.). Relations among demographic patterns, political forms, social classes, economic developments, religious movements, and cultural diversification, investigated through secondary and translated primary sources. Credit given for only one of G582 or G461.

**G583 Imperial China II (3 cr.)** The Chinese empire from the Song through the middle Qing dynasties (tenth-eighteenth centuries A.D.). Relations among demographic patterns, political forms, social classes, economic developments, philosophical movements, and cultural diversification, investigated through secondary and translated primary sources. Credit given for only one of G583 or G461.

**G585 Modern China (3 cr.)** Survey of the final century of dynastic rule and the rise to power of the Nationalist and Communist parties, highlighting social and cultural developments, the impact of Western imperialism, and the evolution of revolutionary ideologies. Credit given only for G585 or G462.

**G587 Contemporary China (3 cr.)** Survey of recent Chinese history focusing on social, cultural, and political life in the People's Republic of China and post-1949 Taiwan. Events covered include the Long March, the Cultural Revolution, and the Tiananmen Square protests of 1989. Credit given for only one of G587 or G462.

**H425 Topics in History (1-3 cr.)**

**T500 Topics in History (3 cr.)** Intensive study and analysis of selected historical issues and problems of limited scope from the perspective of social and historical studies. Topics will vary but will ordinarily cut across fields, regions, and periods. May be repeated for credit.

**General and Professional Skills Courses**

**H500 History of Historical Thought (4 cr.)**

Approaches to the historian's craft and reflections on history as a type of scholarly thinking. Recommended for new graduate students and others interested in history as a branch of knowledge. With the consent of the director of graduate studies, may be repeated for credit when the instructor differs.

**H501 Historical Methodology (4 cr.)**

Discussion and application of the various methods and strategies used in historical research.

**H509 Special Topics in European History (3 cr.)** Study of special topics in history of Europe at graduate level. May be repeated once for credit.

**H511 Special Topics in United States History (3 cr.)** Intensive study and analysis of selected topics in United States history. Topics will vary from semester to semester.

**H520 Shaping Careers in History (2 cr.)**

Introduces students to the history profession in order to facilitate planning of careers in the university and beyond. Emphasis placed on the changing nature of careers inside and outside academia and ways students might construct a program of study to serve their professional goals.

**H521 Special Topics in African, Asian, or Latin American History (3 cr.)** Intensive study and analysis of selected topics in African, Asian, or Latin American history. Topics will vary from semester to semester, e.g., Traditional Asia, Modern Asia, Latin American Intellectual History.

**H524 Issues in Contemporary Historiography (4 cr.)** Overview of the discipline of history. Focuses on understanding and placing in perspective current debates in the field. Topics vary, but attention will be paid in each case to overarching themes such as the differences between historical subfields and the overlaps and divergences between history and other disciplines.

**H540 Quantitative Methods in History (4 cr.)**

**H542 Advanced Quantitative Methods (4 cr.)**

**H543 Public History (4 cr.)** The application of history to public needs and public programs. Historic preservation, archival management, oral history, editing, public humanities programming, historical societies, etc.

**H543 Practicum in Public History (1-4 cr.) P:**

**H542.** Internships in public history programs, field work, or research in the historical antecedents of contemporary problems.

**H546 Special Topics in the History of Science and Technology (3 cr.)** Study of topics in the history of science, medicine, and technology. May be repeated once for credit.

**H547 Special Topics in Public History (3 cr.)**

Intensive study and analysis of selected topics in public history. Topics will vary from semester to semester, e.g., to include historic preservation, material history, archival practice, and historical editing.

**H575 Graduate Readings in History (cr. arr.)\***

**H580 The Teaching of College History (1-2 cr.)** Approaches to college-level instruction in history, either (1) through training to be an associate instructor, or (2) through work as a course assistant, assisting a faculty member in planning and teaching a 300- or 400-level history course.

**H591 Teaching World History (3 cr.)** Introduction to the teaching of the undergraduate courses in world history.

Topics include current curricula in world history; textbooks and other readings in world history; and multi-media resources. Students will prepare an undergraduate course syllabus of their own design.

**Colloquia**

These colloquia are of seminar size and involve oral and written study of the problems, bibliographies, interpretations, and research trends in the fields with which they respectively deal; they are the chief means by which a student becomes knowledgeable in history at a professional level and prepares for the doctoral qualifying examination. Any of them may be taken more than once, upon approval of the student's advisory committee.

**H605 Colloquium in Ancient History (4 cr.)**

**H610 Colloquium in Medieval European History (4 cr.)**

**H615 Colloquium in Early Modern Western European History (4 cr.)**

**H620 Colloquium in Modern Western European History (4 cr.)**

**H630 Colloquium in British and British Imperial History (4 cr.)**

**H640 Colloquium in Russian History (4 cr.)**

**H645 Colloquium in East European History (4 cr.)**

**H650 Colloquium in United States History (4 cr.)**

**H665 Colloquium in Latin American History (4 cr.)**

**H675 Colloquium in East Asian History (4 cr.)**

**H685 Colloquium in Near Eastern History (4 cr.)**

**H695 Colloquium in African History (4 cr.)**

**H699 Colloquium in Comparative History (4 cr.)** Selected topics that cut across conventional geographic and chronological periods. May be used by thematic minors as one of the three colloquia required of Ph.D. candidates.

**Seminars**

These courses involve research at a mature level with primary sources in specialized topics and problems in the field with which they respectively deal. They train the student in historical scholarship. Any of them may be taken more than once, upon approval of the student's advisory committee.

**H705 Seminar in Ancient History (4 cr.)**

**H710 Seminar in Medieval European History (4 cr.)**

**H715 Seminar in Early Modern European History (4 cr.)**

**H720 Seminar in Modern Western European History (4 cr.)**

- H730 Seminar in British and British Imperial History (4 cr.)
- H740 Seminar in Russian History (4 cr.)
- H745 Seminar in East European History (4 cr.)
- H750 Seminar in United States History (4 cr.)
- H765 Seminar in Latin American History (4 cr.)

- H775 Seminar in East Asian History (4 cr.)
- H785 Seminar in Near Eastern History (4 cr.)
- Thesis and Dissertation
- H898 M.A. Thesis (1-6 cr.)\*
- H899 Ph.D. Dissertation (cr. arr.)\*

### Cross-Listed Courses (Bloomington only)

**Graduate**

**G773 Seminar in Economic History (1-6 cr.)** Selected topics in economic history. Offered by Departments of Economics and History and the Department of Business Economics and Public Policy in the School of Business. May be taken more than once for credit.

**Victorian Studies**

**V711 Social Science and Social Philosophy in the Victorian Age (4 cr.)**

## History and Philosophy of Science

College of Arts and Sciences  
Bloomington

Chairperson Professor Elisabeth Lloyd

Departmental URL: <http://w-www.indiana.edu/~hpscdept/>

### Graduate Faculty

**Distinguished Professors** H. Scott Gordon (Emeritus, Economics), Edward Grant (Emeritus, History)

**Ruth N. Halls Chair** Professor Michael Friedman (Philosophy)

**Professors** Roger Buck (Emeritus), Frederick Churchill (Emeritus), Noretta Koertge (Emerita), Elisabeth Lloyd, William Newman

**Associate Professors** James Capshew, Ann Carmichael (History), W. Michael Dickson, Domenico Bertoloni Meli

**Assistant Professor** Richard Sorrenson\*

**Graduate Advisor** Associate Professor James Capshew, Goodbody Hall 130, (812) 855-3622

**Degrees Offered** Master of Arts, dual Master of Arts and Master of Library Science (jointly)

with the School of Library and Information Science), and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Either (1) an undergraduate major in a science or a related group of sciences with a minor in either history or philosophy or (2) an undergraduate major in either history or philosophy with a strong minor in science; or a similar background.

### Master of Arts Degree

**Course Requirements** A total of 36 credit hours of course work or 30 credit hours of course work together with a satisfactory M.A. thesis. Students who do not write a thesis must choose at least one course which requires the writing of a major research paper. Both options require 24 hours of course work in the department; at least four courses must be selected from the core courses listed below (X506, X507, X551, X552, X556, X706). Students intending to take Ph.D. qualifying exams are advised to take more than the minimum number of core courses required for the M.A.

**Grades** A 3.3 (B+) grade point average in departmental courses is required.

### Foreign Language/Research Skill Requirement

Proficiency in one language or one research skill. Students are typically expected to complete this requirement before registering for their third semester in the department.

### Dual Master of Arts and Master of Library Science Degrees

Study for these two degrees can be combined for a total of approximately 51 credit hours rather than the 66 credit hours required for the two degrees taken separately. Students must take 21 credit hours in history and philosophy of science, including three core courses (X506, X507, X551, X552, or X556, X706). The course of studies must be planned in consultation with a history and philosophy of science advisor. Students must also complete 30 credit hours of SLIS courses, including 9 credit hours minimum from the common core and 9 credit hours minimum from the M.L.S.-specific core for a total of 18 hours in addition to L586, L624, and L596. Admission to each of the two areas of study is approved separately on the same basis as for other applicants not in the dual program.

## Doctor of Philosophy Degree

**Admission Requirement** M.A. in History and Philosophy of Science or equivalent; demonstration of ability to do independent research.

**Fields of Study** A student may concentrate in either the history or the philosophy of science or pursue both fields simultaneously.

**Course Requirements** A total of 90 credit hours, including courses that meet all requirements for the M.A., plus at least two additional courses approved by the department from its offerings. Students intending to take Ph.D. Qualifying Exams are advised to take more than the minimum number of core courses required for the M.A. A maximum of 30 credit hours for dissertation work (X700 and X800) may be counted toward the 90 credit hours.

**Minor** One minor outside the department is required. The requirements for this minor are set by the department involved. Outside minor fields that students in the history and philosophy of science program have commonly taken include history, mathematics, philosophy, or one of the sciences.

### Foreign Language/Research Skill Requirement

Proficiency either (1) in two languages, or (2) in one language and one research skill, or (3) in one language in depth, depending on the recommendation of the student's advisory committee. Students are normally expected to complete one of these requirements before their third semester in residence and the second language or tool skill requirement before their fifth semester.

### Qualifying Examination

Written and oral. Examination in minor area is left to the discretion of the minor department. Examinations may not be taken more than twice, except in extraordinary cases.

### Research Proposal

Upon advancement to candidacy, if not before, the student must submit and gain departmental approval of a research proposal.

### Ph.D. Minor in History and Philosophy of Science

Graduate students from other departments desiring a minor in history and philosophy of science must complete 12 graduate credit hours of course work in the department with a B+ or higher. The set of courses should represent a coordinated objective and must be approved by the department.

## Courses

### CORE COURSES

**X506 Survey of History of Science up to 1750 (3 cr.)** Ancient, Medieval, Renaissance, and Enlightenment science.

**X507 Survey of History of Science since 1750 (3 cr.)** Growth of physical, biological, and social sciences during the nineteenth and twentieth centuries. Attention will be paid not only to the scientific contents but to the institutional and social context.

**X551 Survey of the Philosophy of Science (3 cr.)** Science claims to tell us what the world is like, even the part of the world we cannot see, and to explain why things happen the way they do. But these claims are controversial. Examination of competing models of scientific explanation and the ongoing debate over whether scientific theories should or even can be interpreted realistically.

**X552 Modern Philosophy of Science (3 cr.)** Origin and character of twentieth-century philosophy of science. Examination of the historical development of the philosophy of science-in interaction with parallel developments within the sciences themselves-from 1800 to the early twentieth century.

**X556 Philosophy of Science in Antiquity (3 cr.)** Historical survey of philosophical discussions of the nature of science, in the pre-modern period, to include figures such as Plato, Aristotle, Epicurus, Augustine, and Aquinas.

**X706 Special Topics in the History and Philosophy of Science (2-4 cr.)** Content and instructors will vary; students may thus receive credit more than once. Admission by consent of instructor or chairperson.

### SEMINARS IN HISTORY OF SCIENCE

**X601 Seminar in Ancient Science (3 cr.)** P: X506 or consent of instructor. Selected topics.

**X602 Seminar in Medieval Science (3 cr.)** P: X506 or consent of instructor. Selected topics.

**X603 Seminar in Renaissance Science (3 cr.)** P: X506 or consent of instructor. Selected topics.

**X607 Seminar in Enlightenment Science (3 cr.)** P: X506 or consent of instructor. Selected topics.

**X609 Seminar in Modern Science (3 cr.)** P: X507 or consent of instructor. Selected topics.

**X705 Special Topics in the History of Science (2-5 cr.)** Content and instructors will vary; students may thus receive credit more than once. Admission by consent of instructor or chairperson.

### ISSUES IN PHILOSOPHY OF SCIENCE

**X521 Research Topics in the History and Philosophy of Science (1-3 cr.)** May be repeated for a total of 3 credits.

**X755 Special Topics in the Philosophy of Science (2-5 cr.)** Content and instructors will vary; students may thus receive credit more than once. Admission by consent of instructor or chairperson.

**X795 Minds, Brains, and Computers (3 cr.)** Philosophical issues in computer and cognitive science. Programming experience for beginners (in *Mathematica*). Turing machines and computation; computational theories of intelligence, consciousness, and vision; cellular automata and the behavior of complex systems; chaos theory and fractals; problem solving, search, and two-person games; knowledge representation and computer reasoning.

CONCEPTUAL FOUNDATIONS OF MODERN PHYSICAL SCIENCES

**X332 History of Modern Physics (3 cr.)** P: PHYS P222 or consent of instructor. Origins and development of the electromagnetic theory of radiation, special relativity, and nonrelativistic quantum theory. Contributions of Faraday, Maxwell, Lorentz, Einstein, Planck, Bohr, Heisenberg, and Schrödinger.

**X622 The Chemical Revolution (3 cr.)** P: consent of instructor. Chemistry in the eighteenth and early nineteenth centuries. The work of Stahl, Boerhaave, Macquer, Priestley, Lavoisier, Dalton, and Davy among others. Discussion of secondary literature.

**X691 Seminar: Philosophical Problems of Space and Time (4 cr.)** P: X491 or consent of instructor.

**X791 Philosophical Issues in Quantum Theory (3 cr.)** Examination of philosophical problems and challenges raised by quantum theory, with topics including Heisenberg uncertainty relations, non-locality and EPR paradox, hidden variables, interpretations of quantum theory. No previous knowledge of quantum theory assumed.

CONCEPTUAL FOUNDATIONS OF THE LIFE SCIENCES

**X493 Structure and Methods of the Life Sciences (3 cr.)**

**X508 History of Biology (3 cr.)** P: junior standing or consent of instructor. Survey of the important concepts in biology from antiquity to the twentieth century. Emphasis on changes in evolution theory and concepts of development and inheritance. A familiarity with biology is helpful but not necessary.

**X632 Seminar: Historical Problems in Evolutionary Biology (3 cr.)** P: X325 or X408/X508 or consent of instructor. Historical examination of such topics as pre-Darwinism, *Naturphilosophie*, Darwin and *The Origin of Species*; rise of modern systematics, and concepts of race. Content will vary; students may receive credit more than once.

CONCEPTUAL FOUNDATIONS OF THE SOCIAL AND BEHAVIORAL SCIENCES

**X642 History of Psychology (3 cr.)** Explores the scientific, professional, and cultural dimensions of modern psychology, including

its emergence as an academic discipline in the late nineteenth century. Focus on interpretive issues raised by recent scholarship.

**X654 Seminar: Philosophy of the Social Sciences (4 cr.)** P: X552 or consent of instructor. Examination of such topics as objectivity, generality, social laws, role of values in social inquiry, methodological individualism, and relation of the social sciences to psychology, operationism, behaviorism, and other reductionist proposals.

Anthropology

**H500 History of Anthropological Thought in the Nineteenth and Twentieth Centuries (3 cr.)**

**H501 Contemporary Problems and Issues in Ethnological Theory (3 cr.)**

**H505 History of Social Anthropology (3 cr.)**

**H506 Modern Development in Social Anthropology (3 cr.)**

SCIENCE IN CULTURAL CONTEXTS

**X301 Growth of Scientific Establishment (3 cr.)** Development of the modern scientific community from its origin to the twentieth century. Special attention to the impact of the ever-increasing involvement of science in industrial, medical, and military technology.

**X610 History of Technology (3 cr.)** Technology in Europe and the United States from 1500 to the present. Relations between science and technology.

**X621 Voyages of Scientific Discovery (3 cr.)** P: consent of instructor. Voyages of Cook, LaPérouse, Humboldt, Lewis and Clark, and Darwin among others. The sciences they influenced. Discussion of secondary literature.

**X645 History of American Science (3 cr.)** An historical exploration of the intellectual and institutional development of science in the United States from colonial times to the present. Examines recent scholarship in the history of American science and related historiographical trends and issues.

**X670 Science and Gender (3 cr.)** The role of science and technology in constructions of masculinity and femininity from 1600 to present. Historical and philosophical analysis of the interaction between science and technology and ideologies of gender. Evaluation of proposals for transforming science.

**X671 Topics in the Science of Sex and Gender (3 cr.)** P: may vary with topic. Possible topics include history of theories of sexuality, critique of current scientific concepts of sex and gender, philosophical perspectives on sexuality, and the history of theories of sex evolution and determination. May be repeated twice for credit with different topic.

English

**L769 Literature and Science (4 cr.)**

Journalism

**J544 Science, Media, and Society (3 cr.)**

**J554 Seminar: Science Writing (3 cr.)**

Sociology

**S319 Sociology of Science (3 cr.)**

**S660 Sociology of Science (3 cr.)**

Individualized Study

**X600 Advanced Readings Course (cr. arr.)\***

**X700 M.A. Thesis (cr. arr.)\***

**X800 Ph.D. Thesis (cr. arr.)\***

**HISTORY OF MEDICINE** (Available from the Department of History)

A broad range of colloquia and seminars covering the history of medicine from antiquity to modern America are offered on a regular basis.

**Logic** (Available from the Department of Philosophy)

**P350 Logic of Sets (3 cr.)**

**P351 Formal Semantics (3 cr.)**

**P505-P506 Logical Theory I-II (3-3 cr.)**

**P550 Systems of Modal Logic (3 cr.)**

**P551 Philosophy and Foundations of Mathematics (3 cr.)**

**P552 Philosophy of Logic (3 cr.)**

**P750 Seminar: Logical Theory (4 cr.)**

**P751 Seminar: Logic (4 cr.)**

## Human Dimensions of Global Environmental Change

Bloomington

**Co-Directors** Arthur F. Bentley Professor Elinor Ostrom and Rudy Professor Emilio Moran

**Departmental e-mail:** [cipec@indiana.edu](mailto:cipec@indiana.edu)

**Departmental URL:** <http://www.indiana.edu/~cipec/>

### Core Graduate Faculty

**Arthur F. Bentley Professor** Elinor Ostrom (Political Science, Public and Environmental Affairs)

**Rudy Professor** Emilio Moran (Anthropology, Public and Environmental Affairs)

**Professors** Dennis Conway (Geography), J.C. Randolph (Public and Environmental Affairs), Jeanne Sept (Anthropology), James Walker (Economics), John T. Williams (Political Science)

**Associate Professors** George Alter (History), Kerry Krutilla (School of Public and Environmental Affairs)

**Assistant Professors** Eduardo Brondizio\* (Anthropology), Tom Evans\* (Geography), Clark Gibson\* (Political Science)

### Associated Graduate Faculty

**Professors** Hendrik Haitjema (Public and Environmental Affairs), Dan Knudsen (Geography), Barry Rubin (Public and Environmental Affairs), Richard Wilk (Anthropology)

**Associate Professor** Scott Robeson (Geography)

**Assistant Professor** Vicky Meretsky\* (Public and Environmental Affairs)

**Academic Advisors** Arthur F. Bentley Professor Elinor Ostrom (812) 855-3196 or (812) 855-0441; Rudy Professor Emilio Moran (812) 855-6181

### Ph.D. Minor in the Human Dimensions of Global Environmental Change

The graduate minor will instruct students in theories and methods that combine the physical and social sciences on human dimensions of global environmental change. The first pair of four seminar courses focus on global environmental change. They seek to familiarize students with the major issues of the field and explore the available approaches to this kind of interdisciplinary work.

concluding in a research proposal on the human dimensions of environmental change. The third is on institutional analysis and design and the fourth on forest and institutions research methods. Students will be expected to become familiar with GIS and/or remote sensing as tools in the analysis of global environmental change through both formal courses and hands-on apprenticeship as part of team research projects.

**Course Requirements** The Minor in Human Dimensions of Environmental Change requires 12 hours of approved courses; typically G515, Y673, and Y773 are required. The fourth course can be selected from the optional courses below. Students who have (1) completed the required courses in good standing and (2) presented a dissertation to their research committee, at least one of which must be a core



faculty member associated with the program, will receive the minor.

### Core Courses

#### Graduate

**G515 Human Dimensions of Global Environmental Change (3 cr.)** Examines the research agenda on global environmental change. It aims to facilitate student participation in ongoing and future research through development of research proposed for dissertation work. Topics include deforestation, pollution, population, land use, and remote sensing.

#### Political Science

**Y673 Empirical Theory and Methodology (3 cr.)** Will count for minor when topic is *Institutional Analysis and Development: Micro*. This research seminar addresses how and why fallible individuals achieve and sustain self-governing entities and self-governing ways of life. It seeks to understand how individuals affect the rules that structure their lives. This seminar provides the theoretical foundations for G773.

**Y773 Empirical Theory and Methodology (3 cr.)** Will count for minor when topic is *Research Seminar International Forestry Resources and Institutions*. This research seminar is designed for both graduate students in diverse disciplines and visiting scholars interested in learning about multi-method data collection techniques that combine rigorous measures of social science concepts and those related to forest conditions.

Additional courses relevant to individual interests that can replace one of the four core courses with the approval of the academic advisors for the minor are:

#### Anthropology

**E427 Cultural Ecology (3 cr.)** Surveys the major environmental studies in anthropology, the basic principles of ecological theory, and human adaptation as manifested in major ecosystems.

#### Graduate

**G513 Topics Seminar in Human Dimensions of Environmental Change (3 cr.)** Topical courses related to the study of institutions, population, and environmental change will be arranged in light of recent scientific developments and student and faculty interests. Analysis of human roles in environmental change is contextualized by attention to biophysical and ecosystematic relationships.

**G514 Fieldwork Practicum in Human Dimensions of Environmental Change (12 cr.)** P. academic advisor's approval required (advisor/director of the Center for the Study

of Institutions, Population, and Environmental Change). Gives students the opportunity to practice research methods in an individually designed project in the Western Hemisphere. The project must address a specific issue in the study of institutions, populations, and environmental change.

**G516 Remote Sensing of Global Environmental Change (3 cr.)** Covers the theory and application of Satellite Remote Sensing to the study of global change. Focuses primarily on measuring and monitoring human induced changes to terrestrial vegetation cover.

**G517 The Amazon in Crisis: Ecology and Development (3 cr.)** Provides an introduction to the ecology of the Amazon Basin of South America, focusing on its habitats, the use and conservation of the environment by its native inhabitants, and examining the forces of development that threaten its very existence.

**G590 Population Analysis: Concepts, Issues, Problems (3 cr.)** Graduate status or approval of instructor. Theoretical issues, empirical questions on social determinants and consequences of biological events like birth

and death. Age structure, marriage and household formation, gender, migration, quality of data, population policy in developing countries and advanced industrial societies. Contemporary and historical sources.

**G591 Methods of Population Analysis and Their Applications (3 cr.)** P. an undergraduate course in statistics. Techniques of measuring and analyzing population size and trends, fertility and mortality patterns, migration flows. Population estimates and projections. Major models of formal demography.

#### School of Public and Environmental Affairs

**E528 Forest Ecology and Management (3 cr.)** P or C. E538 or V506. Field and laboratory

exercises in quantitative analysis of forest ecosystems. Sampling and data collection methodologies. Data analysis and interpretation. Concepts in forest ecology and forest management.

## Human Evolutionary Studies

College of Arts and Sciences  
Bloomington

### Core Faculty

Professor Nicholas Toth (Anthropology)

Associate Professors Kevin Hunt (Anthropology), Kathy Schick (Anthropology)

### Associated Graduate Faculty

Rudy Professor Emilio Moran (Anthropology)

Professors Abhijit Basu (Geological Sciences), Geoffrey Conrad (Anthropology), Della Collins Cook (Anthropology), Jesus Dapena (Kinesiology), Paul Jamison (Anthropology), Robert Meier (Emeritus, Anthropology), Enrique Merino (Geological Sciences), Christopher Peebles (Anthropology), Lisa Pratt (Geological Sciences), Elizabeth Raff (Biology), Rudolf Raff (Biology), Jeanne Sept (Anthropology), Karen D. Vilelli (Anthropology), Richard Wilk (Anthropology)

Associate Professors Patrick Munson (Anthropology), Anne Pyburn (Anthropology) Assistant Professor Julie Stout\* (Psychology)

**Admission Requirements** Students must be admitted to a Ph.D. program in the Department of Anthropology, the Department of Biology, the Department of Geological Sciences, the Department of Psychology, or other related departments or programs. They must also apply to the Program in Human Evolutionary Studies.

Students should select an advisory committee made up of at least two of the core faculty and at least one of the associated faculty members. For students whose home department is anthropology, at least one member of the advisory committee is expected to be from a department outside anthropology.

### Ph.D. Minor in Human Evolutionary Studies

**Course Requirements** The minor in human evolutionary studies requires four courses.

Three of the four required courses are: S510 The Archaeology of Human Evolution (3 cr.); S511 Seminar on Current Issues in Palaeoanthropology (3 cr.) (Topics will vary. May be repeated for graduate credit.); and ANTH B464 Human Paleontology (3 cr.).

The fourth required course will be chosen from the following: S512 Human Evolution and the Prehistory of Intelligence (3 cr.); S513 Modeling Human Evolution (3 cr.); or BIOL L505 Molecular Biology of Evolution (3 cr.).

**Grades** A minimum of B (3.0) is required in each course that is to count toward the minor.

### Courses

**S510 The Archaeology of Human Evolution (3 cr.)** Overview of the Paleolithic (Old Stone Age) from 2.6 million years to 10,000 years ago. Focuses on the theory and method of reconstructing hominid behavior in the stone age. Course will take an evolutionary perspective, considering both biological and technological evolution.

**S511 Seminar on Current Issues in Paleoanthropology (3 cr.)** Provides a forum for professional-level discussion of current reports on human evolution. Will often focus on one aspect or theme in human evolutionary studies.

**S512 Human Evolution and the Prehistory of Intelligence (3 cr.)** Explores the different avenues of inquiry pertaining to the evolution of human intelligence from an archaeological and human paleontological perspective. Topics include technology, subsistence strategies, symbolic behavior, human paleontology, and paleoneurology (especially study of endocasts and fossil skulls).

**S513 Modeling Human Evolution (3 cr.)** Explores the breadth of animal (mostly primate) models for human evolution. Areas for discussion include digestive physiology, bone density, language acquisition, locomotion, tool use, foraging, and social behavior. After a brief overview of theory and method in animal analogy, we will review animal models for the evolution of humans.

### Cross-Listed Courses

#### Anthropology

**B464 Human Paleontology (3 cr.)**

#### Biology

**L505 Molecular Biology of Evolution (3 cr.)**  
**L567 Evolution (3 cr.)**

## Human Sexuality

### Bloomington

**The Kinsey Institute for Research in Sex, Gender, and Reproduction and the Interdepartmental Graduate Committee on Human Sexuality**

**Co-Chairpersons** Professor William Yarber (Applied Health Science) and Adjunct Assistant Professor Cynthia Graham\* (Psychology)

**Professors** John Bancroft (Kinsey Institute), Alan Bell (Emeritus, Education), Dyan Elliott (History), Paul Gebhard (Emeritus, Anthropology), Sumie Jones (East Asian Languages and Cultures), Noretta Koertge (History and Philosophy of Science), David H. Smith (Religious Studies), Martin Weinberg (Sociology), Colin Williams (Sociology, Indiana University-Purdue University Indianapolis)

**Associate Professors** Stephanie Kane (Criminal Justice), Jean Robinson (Political Science), Stephanie Sanders (Kinsey Institute, Gender Studies), Beverly Stoelije (Communication and Culture; Folklore)



**Assistant Professor** Gracia Clark\*  
(Anthropology)

**Associate Scientist** Erick Janssen

**Academic Advisors** Professor William Yarber, Health, Physical Education and Recreation Building 142, (812) 855-7974; and Adjunct Assistant Professor Cynthia Graham, Psychology Building 365, (812) 855-9782

### Ph.D. Minor in Human Sexuality

This minor is co-directed by the Kinsey Institute for Research in Sex, Gender, and Reproduction and the Interdepartmental Graduate Committee on Human Sexuality. The Human Sexuality Program offers a doctoral minor of 15 credits from related interdisciplinary subject areas. It is intended for students currently enrolled in a doctoral program, such as counseling, education, health behavior, psychology, and sociology. Students should select an advisor for this minor from members of the Interdepartmental Graduate Committee, listed above, or from affiliated faculty (see the Web site at [www.indiana.edu/~kinsey/gradprog.html](http://www.indiana.edu/~kinsey/gradprog.html)).

One core course is required, with the remaining hours being selected from other courses listed below, upon consent of the student's minor area faculty advisor.

The program provides a basic yet broad overview of human sexuality. The behavioral, biological, cultural, and social components of sexuality are examined, including the study of the role of sexuality in the arts and public policy. The program will be particularly useful for persons entering fields involving the social and behavioral sciences, education, health science and medicine, counseling and therapy, nursing, social work, humanities, criminal justice and public policy.

Students interested in the Ph.D. Minor in Human Sexuality should check the Web site for current information about the minor, course offerings, and a list of affiliated faculty. All students intending to complete the minor should contact Professor William Yarber, Health, Physical Education, and Recreation Building 142, (812) 855-7974 or Adjunct Assistant Professor Cynthia Graham, Psychology Department, Room 365, (812) 855-9782.

### Courses

#### REQUIRED CORE COURSES

(one of the following two courses is required)

**Health, Physical Education, and Recreation H555 Issues in Human Sexuality and Health** (3 cr.)

**Psychology P657 Human Sexuality** (3 cr.)

**ELECTIVES**  
(12 credits required)

**Anthropology**

**E617 African Women** (3 cr.)

**E600 Seminar in Cultural and Social Anthropology** (3 cr.) May count toward minor when topic applies to human sexuality.

**F600 Seminar in Prehistoric Archaeology** (3 cr.)

**Biology**

**L500 Independent Study** (cr. arr.) May count toward minor when topic applies to human sexuality.

**Comparative Literature**

**C546 Sexuality and the Arts** (3 cr.)

**C574 Japanese-Western Studies** (4 cr.) May count toward minor when topic applies to human sexuality.

**Communication and Culture**

**C626 Studies in Contemporary**

**Communication** (3 cr.) May count toward minor when topic applies to human sexuality.

**C700 Research** (cr. arr.) May count toward minor when topic applies to human sexuality.

**Criminal Justice**

**P680 Seminar: Issues in Criminal Justice** (3 cr.) May count toward minor when topic applies to human sexuality.

**East Asian Languages and Cultures**

**E505 Topics in East Asian Studies** (2-4 cr.) May count toward minor when topic applies to human sexuality.

**Education**

**G567 Introduction to Marriage and Family Counseling** (3 cr.)

**G672 Human Sexuality: An Introduction to Therapy** (3 cr.)

**Folklore**

**F750 Performance Studies** (3 cr.) May count toward minor when topic applies to human sexuality.

**Gender Studies**

**G601 Survey of Contemporary Research in Gender Studies: The Social and Behavioral Sciences** (3 cr.) May count toward minor when topic applies to human sexuality.

**G602 Survey of Contemporary Research in Gender Studies: The Humanities** (3 cr.) May count toward minor when topic applies to human sexuality.

**G695 Graduate Readings and Research in Gender Studies** (1-6 cr.) May count toward minor when topic applies to human sexuality.

**G701 Graduate Topics in Gender Studies** (3-4 cr.) May count toward minor when topic applies to human sexuality.

**Health, Physical Education, and Recreation H515 Human Sexuality Education in Schools** (3 cr.)

**H540 Practicum in College Sex Education** (3 cr.)

**H641 Readings in Health Education** (1-5 cr.) May count toward minor when topic applies to human sexuality.

**H740 Research in Health Behavior** (1-10 cr.) May count toward minor when topic applies to human sexuality.

**History**

**H575 Graduate Readings in History** (cr. arr.) May count toward minor when topic relates to human sexuality.

**H610 Colloquium: Medieval European History** (4 cr.) May count toward minor when topic applies to human sexuality.

**History and Philosophy of Science**

**X600 Advanced Readings Course** (cr. arr.) May count toward minor when topic relates to human sexuality.

**X756 Special Topics in the Philosophy of Science** (2-5 cr.) May count toward minor when topic relates to human sexuality.

**Kinsey Institute**

**K690 Sexual Science Research Seminar** (3 cr.)

**K691 Practicum in Sex Therapy and Counseling** (3 cr.)

**Law**

**B753 AIDS and the Law** (3 cr.)

**Political Science**

**Y657 Comparative Politics** (3 cr.) May count toward minor when topic applies to human sexuality.

**Y675 Political Philosophy** (3 cr.) May count toward minor when topic applies to human sexuality.

**Y681 Readings in Comparative Politics** (1-4 cr.) May count toward minor when topic applies to human sexuality.

**Y689 Readings in Political Theory and Methods** (1-4 cr.) May count toward minor when topic applies to human sexuality.

**Psychology**

**P657 Topical Seminar** (cr. arr.) May count toward minor when topic applies to human sexuality.

### Religious Studies

**R590 Directed Readings in Religious Studies** (1-6 cr.) May count toward minor when topic applies to human sexuality.

**Sociology**

**S526 The Sociology of Human Sexuality** (3 cr.) Offered at Indiana University-Purdue University Indianapolis.

**S660 Advanced Topics** (2-6 cr.) May count toward minor when topic applies to human sexuality.

**S700 Topical Seminar** (3 cr.) May count toward minor when topic applies to human sexuality.

**S864 Readings in Sociology** (cr. arr.) May count toward minor when topic applies to human sexuality.

**S866 Research in Sociology** (cr. arr.) May count toward minor when topic applies to human sexuality.

## India Studies

**College of Arts and Sciences**  
Bloomington

**Departmental e-mail:** [glarson@indiana.edu](mailto:glarson@indiana.edu)

**Departmental URL:** <http://www.indiana.edu/~isp>

### Graduate Faculty

**Director** Gerald J. Larson, Rabindranath Tagore Professor of Indian Cultures and Civilizations (Religious Studies)

**Rudy Professor** Anil Gupta (Philosophy)

**Professor** Lewis Rowell (Music)

**Associate Professors** David L. Haberman (Religious Studies), Jan Nattier (Religious Studies), Rakesh Solomon\* (Theatre and Drama), Richard E. Stryker (Political Science)

**Assistant Professor** Purnima Bose\* (English)  
**Director of Graduate Studies** Rabindranath Tagore Professor of Indian Cultures and Civilizations Gerald J. Larson, Sycamore Hall 332, (812) 855-5798

The India Studies Program seeks to provide for the interdisciplinary study and critical analysis of the cultures and civilizations that have developed on the Indian subcontinent from ancient times to the present. The primary focus of the program is on present-day or modern India, but in order to understand modern India it is important to have some basic knowledge about the great periods in the history of India that have shaped modern Indian social reality (including the Hindu or Brahmanical, Buddhist, Jain, Muslim, Sikh, and modern Indo-Anglian periods). Moreover, to understand modern India it is also

important to have a sophisticated and critical understanding of the arts, music, literature, drama, philosophy, religion, and socio-cultural reality (sociological and anthropological structures) of the subcontinent.

In addition to providing an overall, comprehensive grasp of India as a world-class civilization(s), the program also allows for two areas of more specialized work, namely, (1) literary, performance (including theatre, drama, music, fine arts), and film studies, and (2) philosophical and religious studies.

The India Studies Program strongly encourages work in elementary, intermediate, and advanced Hindi and Sanskrit for Ph.D. minor students, and Ph.D. minor students are strongly urged to begin the study of the languages at the earliest possible opportunity. Students in the program should also consider the possibility of studying abroad in India and should consult with the Director of India Studies about this possibility.

### Ph.D. Minor in India Studies

12 credit hours, including advanced work in either of the two specialized areas of the program (excluding language courses in Hindi or Sanskrit). Three (3) of the 12 credits must be from I546 (Philosophies of India), which is designed as an introductory core seminar that provides an overview of the intellectual history of India's civilization(s). The remaining 9 credits may be taken from either of the two areas of specialization; specific courses as well as language requirements (if any) should be chosen in consultation with the graduate advisor. Finally, it should be noted that ordinarily only 3 credits from the student's major program may be counted towards the Ph.D. minor.

### Cooperative Programs

Students in the Ph.D. minor in India Studies are also encouraged to take advantage of programs in India Studies and South Asian Studies at participating institutions in the Committee on Institutional Cooperation (CIC). Excellent work in the social sciences is available through the University of Chicago and the University of Wisconsin-Madison.

### Courses

**I501 Elementary Sanskrit I (4 cr.)** Introduction to Sanskrit, a classical language of ancient India. Basic grammatical structure and vocabulary in preparation for the reading of both secular and religious texts.

**I502 Elementary Sanskrit II (4 cr.)** Continuing introduction to Sanskrit. Basic grammatical structure and vocabulary in preparation for the reading of both secular and religious texts. Students will read a short epic Sanskrit piece.

**I506 Beginning Hindi I (4 cr.)** Introduction to the Hindi language through its writing system and basic grammar. Graded exercises and readings leading to mastery of grammatical structures and essential vocabulary.

Development of reading and writing competence and simple conversations in contemporary Hindi. Classroom use of story books, tapes, and films in Hindi.

**I507 Beginning Hindi II (4 cr.)** Continuation of the first semester. Graded exercises and reading for mastery of grammatical structures and essential vocabulary. Composing short dialogues from the students' own environment. Reading, writing, and conversational skills are sharpened.

**I508 Second-Year Hindi I (3 cr.)** Focuses on reading such literature as mythology, folklore, and modern short stories and poetry, including several examples from Urdu literature. Students compose and perform their own dialogues based on the material read.

**I509 Second-Year Hindi II (3 cr.)** Promotes rapid reading skills and building vocabulary. Study of grammar is based on Hindi reading materials and includes regular grammar drills. Students sharpen composition skills by retelling stories from the reading material orally and in writing.

**I546 Philosophies of India (3 cr.)** Historical and critical-analytic survey of the major intellectual traditions of the cultures and civilizations of India. Attention to early philosophizing and the emergence of the classical schools in Hindu, Buddhist, and Jain traditions. Attention also to contemporary thought in India, including critical theory and subaltern theorizing.

**I561 Intermediate Sanskrit I (3 cr.)**

**I562 Intermediate Sanskrit II (3 cr.)**

**I570 Literature of India in Translation:**

**Ancient and Classical (3 cr.)** Survey of the ancient and classical Sanskrit literatures of India in translation, presented in cultural context.

**I571 Medieval Devotional Literatures of**

**India (in translation) (3 cr.)** Survey of medieval Indian devotional literature with reference to the various cultural milieus in which it was produced and its impact on and importance to Indian cultures today.

**I597 Sanskrit Religious Literature (3 cr.)** P. INST I501-I502 Elementary Sanskrit or consent of instructor. Arranged tutorial readings from selected Indian religious texts in the original Sanskrit representing a variety of styles, periods, and religious traditions; includes selections from Hindu scriptures, religious epics, commentaries, religious law, hymns, philosophical texts, and Buddhist literature. May be repeated once for credit when topics vary.

### I605 Seminar on Indic Studies (3 cr.)

Advanced research seminar on selected topics in India Studies. Seminar may focus on specific texts, specific historical figures, basic themes, or issues in India Studies.

**I656 Graduate Readings in Indic Studies (1-6 cr.)** R: reading knowledge of Sanskrit and Hindi. Selected and substantive topics investigated from ancient, medieval, and modern texts about the civilization of India. May be repeated when topic varies for a maximum of six credit hours.

### Cross-Listed Courses

English

**L774 Topics in International English Literature (4 cr.)**

Folklore

**F600 Asian Folklore and Folk Music (3 cr.)**

History

**H630 Colloquium in British and British Imperial History (4 cr.)**  
**H730 Seminar in British and British Imperial History (4 cr.)**

Music

**T560 Music Analysis (3 cr.)** Topic: The Art Music of India

Religious Studies

**R547 Meditation Traditions of India (3 cr.)**

**R551 Religions of South Asia (3 cr.)**

**R597 Sanskrit Religious Literature (3 cr.)**

**R603 Seminar in Comparative Mysticism (3 cr.)**

**R604 Seminar in Cross-Cultural Philosophy of Religion (3 cr.)**

**R605 Seminar on Indic Studies (3 cr.)**

**R650 The Hindu Tradition (3 cr.)**

**R651 South Asian Buddhism (3 cr.)**

**R656 Buddhism in Central Asia (3 cr.)**

**R658 Materials and Methods in Buddhist Studies (3 cr.)**

Theatre

**T468 Non-Western Theatre and Drama (3 cr.)**

## Inner Asian and Uralic Studies

College of Arts and Sciences  
Bloomington

**Director** Associate Professor William Fierman (Central Eurasian Studies)

**Center e-mail:** iaunrc@indiana.edu

**Center URL:** <http://www.indiana.edu/~iaunrc>

**Distinguished Professor** Denis Sinor (Emeritus, Central Eurasian Studies)

**Professors** Michael Alexeev (Economics), Randall Baker (Public and Environmental Affairs), Ilhan Başgöz (Emeritus, Central Eurasian Studies), Gustav Bayerle (Emeritus, Central Eurasian Studies), Christopher I. Beckwith (Central Eurasian Studies), Jack Bielasiak (Political Science), Yuri Bregel (Emeritus, Central Eurasian Studies), Gyula Décsy (Central Eurasian Studies), Henry Glassie (Folklore), Joseph Hoffmann (Law), György Kara (Central Eurasian Studies), Marjorie A. Lyles (Business), Paul Marer (Emeritus, Business), John L. Mikeseil (Public and Environmental Affairs), Christine L. Ogan (Journalism), Toivo Raun (Central Eurasian Studies), Nazif Shahrani (Anthropology/Central Eurasian Studies), Martin Spechler (Economics), Mihály Szegedy-Maszák (Central Eurasian Studies)

**Associate Professors** Curtis Bonk (Education), Jamshed K. Chokey (Near Eastern Languages and Cultures), Devin DeWeese (Central Eurasian Studies), Ben Eklof (History), William Fierman (Central Eurasian Studies), Michael Hamburger (Geological Sciences), Owen V. Johnson (Journalism), Michael Kaganovich (Economics), Dodona Kiziria\* (Slavic Languages and Literatures), Larry Moses (Emeritus, Central Eurasian Studies), Jan Nattier (Religious Studies), Martha Nyikos (Education), Michael Parsons (Education), Kemal Sılay (Central Eurasian Studies), Elliot Sperling (Central Eurasian Studies)

**Assistant Professors** Matthew R. Auer (Public and Environmental Affairs)\*, Maria Bucur (History)\*, Paul Losensky (Central Eurasian Studies)\*

**Academic Advisor** Associate Professor William Fierman (Central Eurasian Studies), Goodbody Hall 324, (812) 856-5263, wfierman@indiana.edu

**Area Certificate in Inner Asian and Uralic Studies**

The Inner Asian and Uralic Studies Program offers a strong interdisciplinary training program for students interested in the languages and societies of Central Eurasia, stretching from the Baltic, Hungary, and Turkey to Central Asia, Tibet, and Mongolia. IU's greatest concentration of expertise and instruction in the area is brought together by the Inner Asian and Uralic National Resource Center. Center faculty pursue both historical and contemporary analysis in a wide range of disciplines, including anthropology, business,

comparative literature, economics, folklore, history, journalism, linguistics, music and drama, political science, public administration, and religious studies. Center faculty also offer three levels of instruction in all of the following living languages indigenous to the Center's area: Estonian, Finnish, Hungarian, Mongolian, Persian/Tajik, Tibetan, Turkish, and Uzbek. Other living and classical languages of Central Eurasia are offered less frequently, including Chagatai, Evenki, Kazakh, Kyrgyz, Mordvin, Turkmen, and Uyghur.

**Course Requirements** Eighteen (18) credit hours of graduate course work, including 9 credit hours from the Department of Central Eurasian Studies; or in the case of Turkish Studies, the Department of Near Eastern Languages and Cultures and/or CEUS. All courses are to be selected in consultation with the IAUNRC director.

Language Requirements Students will be required to demonstrate intermediate competence in a relevant language. No credit toward the Certificate will be awarded for first-year language courses. No more than 6 hours of language courses may be counted toward the Certificate.

**Grades** Minimum of a B (3.0) in all courses that count toward the certificate.

**Examination** None.

## Courses

### Anthropology

E455 Anthropology of Religion

E600 Seminar in Cultural and Social Anthropology

### Business

D503 International Business Environment

D504 Operations of International Business

D545 East Europe & Russia Transition

D594 Competitive Strategic Global Industries

D595 Management of Transnational Corporations

### Central Eurasian Studies

U345 Finno-Ugauric and Siberian Mythology and Religion

U368 The Mongol Conquest

U370 Uralic Peoples

U394 Islam in the Former Soviet Union

U423 Hungary between 1890 and 1945

U424 Hungarian Literature from Its Beginnings to 1900

U426 Modern Hungarian Literature

U427 Hungary from 1945 to the Present

U436 Finnish Civilization to 1800

U437 Finnish Civilization II

U450 Introduction to Turkish Folklore and Oral Literature

U459 Seminar: Education and Societal Change in Turkey

U469 Mongols of the 20th Century

U481 Survey of Tibetan Literature

U483 Introduction to the History of Tibet

U484 The Religions of Tibet

U489 Tibet and the West

U490 Sino-Tibetan Relations

U493 Central Asia: 16th –19th Centuries

U496 Ethnic History of Central Asia

U498 Studies in Inner Asian Religious Traditions

U501 Introduction to Chuvash

U502 Introduction to Yakut

U504 Introduction to Mari (Cheremis)

U518 Empire and Ethnicity in Modern Russia

U519 Soviet and Post-Soviet Nationality Policies and Policies

U520 Topics in Central Eurasian Studies

U533 Finland in the 20th Century

U534 Classical Finnish Literature

U535 Modern Finnish Literature

U543 Estonian Culture and Civilization

U544 The Baltic States Since 1918

U550 Turkish Folklore: Methodology and Analysis

U563 Mongolian Historical Writings

U564 Mongolian Literature and Folklore

U565 Mongolian Civilization and Folk Culture

U568 Mongolian Dialects

U571 The Uralic Languages

U581 The Languages of Eastern Inner Asia

U584 Introduction to Manchee

U590 Shamanism in Central Eurasia

U595 Introduction to Central Eurasian Studies

U596 Post-Soviet Transition in Central Asia

U597 Politics and Society of Central Asia

U598 Peoples and Cultures of Central Asia

U599 Seminar on Social Change in Central Asia

U600 Advanced Readings in Central Eurasian Studies

U601 Central Eurasian Studies MA Thesis Research

U623 History of the Hungarian Language

U690 Comparative Turkic Linguistics

U698 Islamic Hagiography-Central Asia

U720 Seminar: Topics in Central Eurasian Studies

U785 Seminar in Tibetan Literature

U797 Muslim Societies of Central Asia & Middle East

U798 Central Asia Nomadic Pastoralism

U800 Research in Central Eurasian Studies

U901 Advanced Research

All Language Courses in the following Languages:

Azeri

Chaghatay

Estonian

Finnish

Hungarian

Kazakh

Mongolian

Classical Mongolian

Classical Tibetan

Classical Old Tibetan

Turkish

Ottoman Turkish

Uzbek

East Asian Languages and Cultures

E384 East Asian Nationalism and Cultural Identity

E505 Studies in East Asian Society (Topics Course)

Economics

E698 Comparative Economics and Economics of Transition

Education

H551 Comparative Education I

H552 Comparative Education II

H560 Education and Change in Societies

Fine Arts

A421 Early Christian Art

Folklore

F440/540 Turkish Art

F600 Asian Folklore and Folk Music

F617 Middle East Folklore and Folk Music

Geography

G427 Geography of Former Soviet Lands

History

C393 Ottoman History

D521 Hungarian History and Civilization to 1711

G582 Imperial China I

G583 Imperial China II

H645 Eastern Europe 1945-1989: Survival and Resistance

H675 Colloquium in East Asian History

India Studies

I501/502 Elementary Sanskrit

I561 Intermediate Sanskrit

## Journalism

J660 Topics Colloquium

## Music

E571 Kodaly Concept I

E573 Kodaly Concept II

E573 Kodaly Concept II

Near Eastern Languages & Cultures

N545 Introduction to Ancient Near East

N565 Introduction to Islamic Civilization

N695 Graduate Topics in Near Eastern Languages and Cultures

P500/550 Elementary Persian

P600/650 Intermediate Persian

Political Science

Y340 East European Politics

Y385 Russian Political Ideas

Y657 Comparative Politics

Religious Studies

R552 Studies in Buddhism

R554 East Asian Religions

R635 Buddhism in North America

R655 Materials and Methods in Buddhist Studies

R658 Methodologies and Methods in Buddhist Studies

R670/770 Buddhist Ethics

R750 Seminar on Indian Buddhist Texts

Russian and East European Institute

R575 Graduate Readings in Russian & East European Study

R600 Proseminar, Soviet/East European Area Studies

School Of Library and Information Science

L610 International Information Issues

L620 Slavic Bibliography

School of Public and Environmental Affairs

E535 International Environmental Policy

V550 Governmental Finance in Transitional Economies

V551 Trade and Global Competition

V557 International Economic Strategies and Trade Policies

Slavic Languages & Literatures

R553 East European Cinema

In addition to the above, students would be encouraged to take the initiative to find other courses that the professor would be willing and able to adapt for IAUNRC certificate credit. (This might be, for example, by agreeing that the student's papers and/or other projects would focus on the IAUNRC region, or that the student may do additional reading and writing relevant to the region).

## Jewish Studies

College of Arts and Sciences  
Bloomington

**Director** Professor Alvin Rosenfeld (English and Jewish Studies)

**Associate Director** Associate Professor John Efron (History and Jewish Studies)

**Departmental e-mail:** [ujsp@indiana.edu](mailto:ujsp@indiana.edu)

**Departmental URL:** <http://www.indiana.edu/~jsp/>

### Graduate Faculty

**Professors** James Ackerman (Emeritus, Religious Studies), Paul Eisenberg (Philosophy), Jeffrey Isaac (Political Science), Irving Katz (History), Michael Morgan (Philosophy and Jewish Studies), Alvin Rosenfeld (English and Jewish Studies)

**Associate Professors** Joëlle Bahloul (Anthropology and Jewish Studies), John Efron\* (History and Jewish Studies), Stephen Katz (Near Eastern Languages and Cultures), Herbert Marks (Comparative Literature), Michael Satlow (Religious Studies), Dina Spechler (Political Science), Steven Weitzman\* (Religious Studies)

**Academic Advisor** Carolyn Lipson-Walker, Goodbody Hall 325, (812) 855-0453

### Ph.D. Minor in Jewish Studies

The Jewish Studies Program has as its objective the study of Jewish civilization from antiquity to the present and its interaction with and impact on world civilization. The program draws on the many disciplines necessary to study the multifaceted Jewish experience, thus bringing a variety of approaches to the study of Jewish civilization. The contributing departments include Anthropology,

Comparative Literature, English, Germanic Studies, History, Institute for Biblical and Literary Studies, Near Eastern Languages and Cultures, Philosophy, Political Science, Religious Studies, Slavic Languages and Literatures, and Theatre and Drama. Because of the interdisciplinary nature of the Jewish Studies Program, students pursuing the Ph.D. minor in Jewish Studies have the opportunity to structure course work individually according to their specific areas of interest.

Students may choose to concentrate on biblical studies, modern Jewish history, Jewish thought, Holocaust studies, or Israel studies.

**Course Requirements** Fifteen (15) hours of graduate credit in courses in Jewish Studies. All students are required to take a core course

H520 Colloquium in Jewish History. No more than two courses may be taken in the student's home department. No more than 6 hours of individualized readings can be applied to the minor. The selection of courses must be made in consultation with the academic advisor.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the minor.

### Courses

#### Jewish Studies

**JSTU H520 Colloquium in Jewish History** (4 cr.) (Topics in the history of Judaism and the Jews in modern times.)

**JSTU H595 Directed Readings in Jewish Studies** (1-3 cr.) Directed readings in various topics in Jewish Studies; topic, credit hours, and readings to be determined in consultation with the faculty member with whom the student wishes to work.

#### Anthropology

**ANTH E332 Jewish Women: Anthropological Perspectives** (3 cr.)

**ANTH E334 Jews in Moslem Society** (3 cr.)

**ANTH E371 Modern Jewish Culture and Society** (3 cr.)

#### E600 Seminar in Cultural and Social

**Anthropology** (3 cr.) Topics: Israeli Society and Culture; the Jewish Family; Jewish Women.

#### Comparative Literature

**CMLT C545 The Bible and Western Literature** (4 cr.) (when topic focuses on Hebrew Bible)

#### English

**ENG L780 Special Studies in English and American Literature** (4 cr.) Topic: Literature of the Holocaust

#### Germanic Studies

**GER Y501 Beginning Yiddish I** (3 cr.)

**GER Y502 Beginning Yiddish II** (3 cr.)

**GER Y503 Intermediate Yiddish I** (3 cr.)

**GER Y504 Intermediate Yiddish II** (3 cr.)

**GER Y505 Modernity and Tradition in Yiddish Literature and Culture** (3 cr.)

**GER Y506 Yiddish Culture in America** (3 cr.)

#### History

**HIST H523 The Holocaust** (3 cr.)

**HIST H620 Colloquium: Modern Western European History** (4 cr.) (when topic is Jewish history)

**HIST T500 Topics in History** (3 cr.) Topics: Jews of Eastern Europe in the Shtetl, Modern Jewish History from Expulsion to Revolution,

Modern Jewish History since the French Revolution.

**HIST H720 Seminar: Modern Western European History** (4 cr.) Topics: Research Seminar in the Holocaust; German Jewish History.

**Institute for Biblical and Literary Studies**  
**ISBL I600 Colloquium in Biblical and Literary Studies** (4 cr.) (when topic focuses on Hebrew Bible)

**Near Eastern Languages and Cultures**

**NELC H500 Elementary Hebrew I** (2 cr.)

**NELC H550 Elementary Hebrew II** (2 cr.)

**NELC H600 Intermediate Hebrew I** (3 cr.)

**NELC H650 Intermediate Hebrew II** (3 cr.)

**NELC H670 Advanced Hebrew I** (3 cr.)

**NELC H680 Advanced Hebrew II** (3 cr.)

**NELC N471 Biblical Hebrew I** (3 cr.)

**NELC N472 Biblical Hebrew II** (3 cr.)

**NELC N473 Biblical Hebrew III** (3 cr.)

**NELC N511 Foreign Study in Near Eastern Languages and Cultures** (2-8 cr.)

**NELC N517 Biblical Hebrew IV** (3 cr.)

**NELC N531 Individual Reading in Hebrew** (1-6 cr.)

**NELC N587 Modern Hebrew Literature in English** (3 cr.)

**NELC N588 Recent Hebrew Literature in English** (3 cr.)

**NELC N591 Directed Readings in Hebrew** (1-6 cr.)

**NELC N691 Research in Medieval Hebrew Texts** (3 cr.)

**NELC N695 Graduate Topics in Near Eastern Languages and Cultures** (1-4 cr.) Topics: Biblical Themes in Modern Hebrew Literature in English, Modern Hebrew Literature in English, Recent Hebrew Literature in English, and S.Y. Agnon and the Jewish Experience.

**NELC N708 Seminar in Judaic Literature** (4 cr.)

**NELC N720 M.A. Thesis** (cr. arr.)\*

#### Philosophy

**PHIL P522 Topics in the History of Modern** (3 cr.) Topics: Studies in Religion, (Issues in the Study of the Hebrew Bible).

**PHIL P590 Intensive Readings** (1-3 cr.) Topics: Modern Jewish Philosophy; Topics in philosophy of Judaism.

**REL R511 Religion of Ancient Israel** (3 cr.)

Topics: Studies in Religion (Issues in the Study of the Hebrew Bible; Readings in Biblical Archaeology; Fieldwork in Biblical Archaeology I; Fieldwork in Biblical

Archaeology II); Narrative in the Hebrew Bible; Topics in Ancient Israelite Religion (The Sabbath in Literature and Liturgy).

**REL R541 Studies in the Jewish Tradition** (3 cr.) Topics: Prophecy in Ancient Israel, Judaism in the Making, Introduction to Jewish Mysticism, Religious Thought in Medieval Judaism, Religious Issues in Contemporary Judaism (Major Trends in Modern Judaism; Women in Judaism), Talmud, Topics in Ancient Israelite Religion (The Sabbath in Literature and Liturgy), Topics in the History of Judaism.

(The courses below are cross-listed in Jewish Studies when they pertain to the Hebrew Bible):

**REL R610 Studies in Biblical Literature and Religion** (3 cr.)

**REL R615 The Bible in Literature Courses** (3 cr.)

**REL R663 History of Biblical Interpretation** (3 cr.)

**REL R763 History of Biblical Interpretation** (3 cr.)

**REL R793 Advanced Biblical Study** (1-3 cr.)

**SLAV R545 Jewish Characters in Russian Literature** (3 cr.)

#### Theatre and Drama

**THTR T583 American-Jewish Drama** (1-3 cr.)

## Journalism

School of Journalism  
Bloomington

**Dean** Associate Professor Trevor Brown

#### Departmental URL:

<http://www.journalism.indiana.edu/>

### Graduate Faculty

**Professors** John Ahlhauser (Emeritus), James Brown, I. Wilmer Counts (Emeritus), Dan Drew, Jack Dvorak\* Ralph Holsinger (Emeritus), Peter Jacobi (Emeritus), David Nord, Christine Ogan, David H. Weaver, G. Cleveland Wilhoit, Richard Yoakam (Emeritus)

**Associate Professors** David Boeyink,\* Trevor Brown, Bonnie Brownlee,\* Claude Cookman,\* Jon Dilts,\* Owen V. Johnson, Carol Polsgrove, S. Holly Stocking

**Assistant Professors** Randall Beam,\* Maria Grabe,\* Radhika Parameswaran,\* Paul Voakes\*

**Associate Dean for Graduate Studies**  
Professor Dan Drew, Ernie Pyle Hall 215A,  
(812) 855-8111

**Degrees Offered** Master of Arts, Master of Arts for Teachers, dual Master of Arts and Master of Library Science (jointly with the School of Library and Information Science), dual Master of Arts and Master of Public Affairs, dual Master of Arts and Master of Science in Environmental Science (jointly with the School of Public and Environmental Affairs) and Doctor of Philosophy

### Special School Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

Two programs (tracks) are available: a professional track and a research and teaching track. The following requirements apply equally to both tracks.

**Admission Requirements** (1) A superior record in the undergraduate major from a recognized institution, (2) an appropriate level of achievement on the Graduate Record Examination General Test, (3) three letters of recommendation, and (4) a 500-word statement of purpose.

Superior students who have not majored in journalism or mass communications are encouraged to apply to either the professional or research/teaching track, but they may be required to take foundation courses in news reporting, and editing, and communications law. The reporting and editing requirements may be waived for individuals who have had professional media experience.

**Grades** B (3.0) average or above required.

### Master of Arts Degree, Professional Track

**Course Requirements** A total of 30 credit hours, including the core offerings of J501 and J510, three professional skills courses, and 15 additional credit hours. The additional credit hours may be all journalism electives or, upon approval of the student's advisor, may include up to 9 credit hours in a minor field. A special arrangement with the School of Library and Information Science allows a 12-credit minor in that school.

### Master of Arts Degree, Research and Teaching Track

**Course Requirements** A total of 30 credit hours, including the core offerings of J500, J510, J800, and 21 additional credit hours. The additional credit hours may all be journalism electives or, upon approval of the student's advisor, may include up to 9 credit hours in a minor field. A special arrangement with the

School of Library and Information Science allows a 12-credit minor in that school.

**Thesis** Thesis or creative project (J800) required, for 3 credit hours.

### Master of Arts for Teachers Degree

#### Major Field Course Requirements

A minimum of 20 credit hours in journalism, advertising (marketing), and telecommunications. Consult the associate dean for graduate studies for specific degree requirements.

### Dual Master of Arts and Master of Library Science Degrees

**Admission Requirements** Students must be admitted by both the School of Journalism and the School of Library and Information Science. Requirements for admission to the School of Journalism are the same as those for the M.A. degree.

**Course Requirements** A total of 21 credit hours in journalism, including J500, J510, J651, a graduate-level reporting course, either a professional skills course or J800, and 6 additional credit hours of graduate journalism electives. Thirty (30) credit hours are required in the School of Library and Information Science, including the core of L503, L505, L507, L520, L524, L528, L570, L628, and one from L623, L624, or L625 and 3 credit hours of electives in SLIS.

### Dual Master of Arts and Master of Public Affairs (M.P.A.)

### Dual Master of Arts and Master of Science in Environmental Science (M.S.E.S.)

**General Requirements** A total of 57 credit hours is required for the dual Master of Arts and Master of Public Affairs (M.P.A.). A total of 58 credit hours is required for the dual Master of Arts and Master of Science in Environmental Science (M.S.E.S.).

**Admission Requirements** Students must be admitted by both the School of Journalism and the School of Public and Environmental Affairs. Requirements for admission to the School of Journalism are the same as those for the M.A. degree.

**Journalism Course Requirements** A total of 21 credit hours in journalism, including J501, J510, plus three of the following professional-skills classes: J401, J413, J455, J520, J551, J552, J553, J554, J556, J560, J563, J565, and 6 additional credit hours of graduate journalism electives.

Note: A student without a journalism undergraduate degree may be required to take J560 Reporting/Editing Workshop and J572 The Press and the Constitution as electives.

**SPEA Course Requirements** Thirty-six (36) credit hours are required in SPEA for the M.P.A. (Master of Public Affairs); 37 credit hours are required for the M.S.E.S. (Master of Science in Environmental Science).

The M.P.A. requirements include: V501, V502, V503, V505, V506, V517, V540, V560, V600 plus 15 credits in a specialized concentration.

The M.S.E.S. requirements include: E526, E527, E536, E538, E552, E680, V517 plus two of the following: E560, V539, V520, V540, V625, V640, V643, V645, plus 12 hours in a specialized concentration.

### Doctor of Philosophy Degree

The School of Journalism offers the Doctor of Philosophy degree in mass communications, journalism track.

**Admission Requirements** (1) Master's degree from a recognized institution, (2) superior record in the major subject, (3) appropriate level of achievement on the Graduate Record Examination General Test, (4) three letters of recommendation, and (5) a 500-word statement of purpose. Students who have not majored in mass communications at either the bachelor's or master's level are encouraged to apply. Consult the associate dean for graduate studies on whether graduate credit can be granted for course work done at the M.A. level.

**Course Requirements** (1) Foundation core of J500, J600, J651, J570 or J571, J555 and one statistics course. (2) Either proficiency in depth in an appropriate language, usually French, German, Russian, or Spanish; or completion of an approved set of three tool-skill courses. With the permission of the director of graduate studies, these courses may be counted in the concentration areas. (3) At least two other approved courses at the 600 level in the School of Journalism. These courses may be counted in the concentration areas. (4) Twenty-one (21) to 27 credit hours in each of two concentration areas; and up to 27 credit hours in electives and dissertation for a minimum of 90 credit hours.

Much of the concentration area course work will be taken in departments outside the School of Journalism. Students, in consultation with their faculty advisors, should construct concentration areas according to their own research interests. The concentration areas may be selected from the following: (1)

international communication, (2) history and philosophy of communication, (3) communication law, (4) the media and public policy, (5) economics and media management, (6) media and social systems, (7) political communication, (8) communication and culture, (9) visual communication, and (10) communication ethics. With the approval of the advisory committee, students may choose other areas of concentration more closely related to their interests. Students should consult their faculty advisors in selecting courses in concentration areas.

**Grades** B (3.0) average or above required overall and in School of Journalism course work.

**Periodic Review** At the beginning of the second year, members of the graduate faculty together with the student's advisor will meet with the student's first-year instructors to examine the grade and research records of each graduate student to assess the student's strengths and areas in need of attention. Any student whose achievements and potential fall far below standard will be discouraged from further work.

**Advisory Committee Selection** During the first semester of the second year of course work, students will select four faculty members to serve on the advisory committee. Most students select one member for the core, one for each of the two concentration areas, and one for methodology. The chair of the advisory committee must be a member of the journalism faculty. One other member of the committee must come from journalism. A least two of the members must be on the Graduate Faculty, and one must be from outside the journalism and telecommunications faculty. The outside member usually represents one of the concentration areas.

**Qualifying Examination** Each student is evaluated for Ph.D. candidacy in the following ways: at the completion of course work, the student will take (1) a four-hour written examination on the foundation core, (2) a problem-solving, take-home examination on methodology, (3) a two-hour written examination on educational methods, (4) a four-hour written examination on the first concentration area, (5) a 4-hour written examination on the second concentration area; and following the written examinations, (6) a comprehensive oral examination administered by the student's advisory committee. (The written and oral examinations must be completed within a period of no more than four weeks.)

**Research Committee Selection** The research committee will consist of four faculty members, one from outside the School of Journalism and the Department of Telecommunications. The chairperson and at least one other member of the committee must be journalism faculty. The members may be, but need not be, the same as those who served on the advisory committee, and the chairperson may be the same or different. The chairperson should be a full member of the Graduate Faculty. All members must be members of the Graduate Faculty, and at least half the committee must be full members.

**Final Examination** Oral, primarily a defense of the dissertation.

**Ph.D. Minor in Journalism** Students must take 15 credit hours of graduate course work in the School of Journalism. Upon consultation with an advisor in journalism, students may organize a minor tailored to their interests, but they must submit the proposed program of study to the Graduate Committee of the School of Journalism for approval.

## Courses

Courses in the 400s, listed here and described in the College of Arts and Sciences bulletin, are open to graduate students, who will be expected to achieve an appropriately higher level of performance than the undergraduates taking such courses.

- J401 Depth Reporting and Editing (3 cr.)**
- J409 Media Management (3 cr.)**
- J410 The Media as Social Institutions (3 cr.)**
- J413 Magazine Article Writing (3 cr.)**
- J414 International Newsgathering Systems (3 cr.)**
- J423 Public Opinion (3 cr.)**
- J425 Supervision of School Publications (3 cr.)**
- J455 News Analysis and Opinion Writing (3 cr.)**
- J470 Broadcast Media Analysis (3 cr.)**
- J500 Introduction to Mass Media Research (3 cr.)** Seminar on content analysis, experiments, survey methods, qualitative research, historical and legal methodology. Development of media research proposals.
- J501 Public Affairs Reporting (3 cr.)** Lectures and roundtable discussion of problems in covering public affairs issues at the national, state, and local levels. Emphasis on reporting on government, social welfare agencies, elections, political parties, special interest groups, and other areas of general public interest.

**J510 Media and Society Seminar (3 cr.)** Examination of structure, functions, ethics, and performance of communication and mass media, stressing a review of pertinent research literature. Analysis of media policies and performance in light of communication theory and current economic, political, and social thought.

**J514 International Communication (3 cr.)** Comparative analysis of international media systems. Course topics and geographical regions studied vary from semester to semester.

**J520 Seminar in Visual Communication (3 cr.)** Integration of advanced visual communication skills, including photography, writing, and editing. Individual projects in packaging news and public affairs information. Emphasis on experimentation with message forms outside constraints of the traditional news media.

**J525 Colloquium in Scholastic Journalism (1-3 cr.)** Examination of problems in teaching journalism and supervising school publications. Topics may include impact on scholastic journalism of changes in educational philosophy, law, financial support, and technology. May be repeated for state certification to teach secondary school journalism, but no more than 6 credits may be counted toward graduate degree.

**J528 Public Relations Management (3 cr.)** Designed to enable students to manage a public relations department. Theories and principles relevant to public relations practiced in agency, corporate, and not-for-profit organizations will be covered. This will include developing goals and objectives, working with clients, developing budgets, and research methods.

**J529 Public Relations Campaigns (3 cr.)** Designed to provide students with the opportunity to develop and execute a PR campaign for a local not-for-profit organization. Students will be exposed to relevant PR theory and in depth case study analysis.

**J530 Issues in New Communication Technology (3 cr.)** Study of the political, economic, social, legal, and historical issues involved in the introduction and diffusion of communication technologies. Research on the uses and potential effects of new technologies on the structure and practice of journalism and mass media.

**J531 Public Relations for Nonprofits (3 cr.)** This graduate seminar focuses on how a nonprofit organization creates images and how it shapes its programs and goals to gain public support. Assignments and readings are

designed to foster a theoretical and practical understanding of promotional techniques and campaigns using journalistic and other media.

**J542 Arts, Media, and Society (3 cr.)** Study of issues in arts journalism and the role of the arts experts and independent research on current trends and problems in the field, emphasizing the public affairs aspects of the arts.

**J544 Science, Society, and Media (3 cr.)** An examination of science in society, with a particular look at research and commentary on media coverage of science and technology. Reading, reflection, and discussion of both theoretical and practical issues, and independent reading and research on a topic of the student's own choosing.

**J551 Seminar: Reporting the Law (3 cr.)** Study of public affairs aspects of the law. Research and reporting on timely topics pertaining to the courts, the legal profession, and law enforcement agencies particularly as they relate to the social-political-economic order.

**J552 Seminar: Reporting the Arts (3 cr.)** Principles of literary, theater, art, dance, and music reporting and criticism. Emphasis on the preparation of articles for publication.

**J553 Education and the Media (3 cr.)** Study of problems and issues in such areas as school finance, curriculum development, teaching methodology, and the politics of education. Research and reporting on current trends in the field.

**J554 Science Writing (3 cr.)** Exploration of the challenges and opportunities associated with writing about science for non-scientists. Reading and discussion of articles and texts about communicating science to non-scientists, and practical exercises in reporting and writing.

**J555 Teaching Mass Communications in College (3 cr.)** Exploration of the theory and practice of college pedagogy. Specific attention to skills required for teaching mass communications. Includes development of a new course syllabus and teaching portfolio.

**J556 Seminar: Urban Affairs Reporting (3 cr.)** Study of current urban problems, such as air pollution, transportation, inner-city redevelopment, ghetto life, and metropolitan government. Research and reporting on timely topics.

**J560 Topics Colloquium (3 cr.)** Topical seminar dealing with changing subjects and material from semester to semester. May be repeated twice for credit with a different topic.

**J563 Computerized Publication Design I (3 cr.)** This publishing design course

incorporates typesetting, electronic photo editing, graphics, and page design. Students are instructed in design theory, computer publishing skills, and creative problem solving.

**J565 Computerized Publication Design II (3 cr.)** This advanced publishing design course builds on J563 Computerized Design I and incorporates advanced work in color, type design, computer illustration, creative problem solving, and an introduction to print production.

**J570 Theory and Research: Individual Level (3 cr.)** Introduction to the theory and research relevant to mass media studies at the individual level of analysis. Corresponds to RS41 in the telecommunications department.

**J571 Theory and Research: Macro-Social Level (3 cr.)** Introduction to theoretical orientations and research findings at the macro-social level of analysis.

**J572 The Press and the Constitution (3 cr.)** Seminar on specialized topics concerning the rights and obligations of mass media under the Bill of Rights. Research and discussion on law of privacy, access, and other constitutional problems.

**J600 Quantitative Methods in Mass Communication Research (3 cr.)** P: J500 or RS00, and one statistics course. Advanced behavioral methods in the analysis of mass communication data. Practice in analyzing data with computerized statistical programs.

**J614 Communication and National Development (3 cr.)** Study of the structure and roles of the mass media in national development and the application of communication theory and technology to the problems of development and social change.

**J624 Russian and East European Area Media Systems (3 cr.)** Investigation of theory and practice of communications systems in the region, including history, news content, institutions, journalists, technology, economic and political pressures, as well as audience and international influences.

**J650 History and Philosophy of the Media (3 cr.)** Lectures and discussion on the origins, the historical growth, and the philosophical roots of the communication media, with particular emphasis on the relationship between the media and political, economic, social, and cultural trends in the United States.

**J651 Qualitative Methods in Mass Communication Research (3 cr.)** Seminar on qualitative, historical, and legal research methods for mass communication research.

## Latin American and Caribbean Studies

**Academic Advisor** Professor Jeffrey Gould, 1125 E. Atwater Avenue (812) 855-8920

**Degree Offered** Master of Arts. Students working on the Ph.D. in other departments may also qualify for an area certificate or an outside minor in Latin American and Caribbean studies.

The Center for Latin American and Caribbean Studies fulfills a direct teaching function through its M.A. program and its doctoral-level certificate and minor; as well as a highly important liaison and coordinating function among departments and schools with teaching, research, and contract responsibilities related to Latin America and the Caribbean.

The teaching mission aims toward interdisciplinary training in the Latin American and Caribbean area in a two- to three-semester (30 credit hours) M.A. program, specifically tailored to those preparing for business, government, foreign service, or secondary school and junior college teaching opportunities. Advanced work in at least two disciplines and one interdisciplinary seminar give depth and breadth to such an education. Students select their own fields of emphasis from the Departments of Anthropology, Fine Arts, Folklore, Geography, History, Linguistics, Political Science, and Spanish and Portuguese, as well as from the Schools of Business, Education, Journalism, Music, and Public and Environmental Affairs.

### Special Program Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirement** Graduate Record Examination general test scores are required before candidates can be considered for admission.

**Course Requirements** A total of 30 credit hours from graduate courses related to Latin America and the Caribbean. At least 12 credit hours in one discipline (major) and 9 credit hours in a second, related discipline either within the social sciences or the humanities block (minor); 3 credit hours of L501, an interdisciplinary seminar with variable topics and area focus; the remaining 6 credit hours from Latin American and Caribbean studies courses or related courses in other departments.

**Grades** B (3.0) average or above must be maintained.

**Foreign Language Requirement** Reading proficiency in Spanish or Portuguese or, in

**J652 Propaganda and the Mass Media (3 cr.)** Study and analysis of modern propaganda audiences, techniques, media, themes, and effects through historical perspective. Independent research on topics concerning classic propaganda campaigns in World War I, World War II, the Korean War, and Vietnam as well as campaigns waged by religious, business, and pressure groups.

**J653 The Media in the Twentieth Century (3 cr.)** Seminar on topics in the history and philosophy of the communication media in the twentieth century, stressing both continuity and change in an age of rapid technological growth for print and electronic media in the United States and in selected areas of the world.

**J655 Ethics and Journalism (3 cr.)** Exploration of the role of ethics in journalism. Using literature which examines ethics in the context of journalism practice, the course will analyze ways journalists attempt to deny or limit the role of ethical values. Special attention to objectivity, freedom, and casuistry.

**J660 Topics Colloquium (3 cr.)** Topical seminar dealing with changing subjects and material from semester to semester. May be repeated twice for credit.

**J672 Topics in Communication Law (3 cr.)** Independent research and roundtable analysis of selected problems in communication law.

**J673 Government and Mass Media (3 cr.)** Independent research and roundtable analysis of political communication and government-media relations.

**J680 Management Operations (3 cr.)** Study and evaluation of current management practices employed by the mass media, covering such topics as personnel practices, efficiency measures, fiscal operations, community relations, use of technology, and employee continuing education.

**J682 Editorial Operations (3 cr.)** Analysis and research of problems confronting media management trying to open new or expand old circulation markets. Emphasis on how to employ demographic studies, market analysis, reader-interest surveys, metropolitan studies, and the like in planning editorial, advertising, and circulation campaigns.

**J700 Specialized Reporting Project (3 cr.)**

**J800 M.A. Thesis or Creative Project (3 cr.)\***

**J804 Readings and Research in Journalism (cr. arr.)\***

### Graduate

**G741 Ph.D. Research in Mass Communications (cr. arr.)\***

**G790 Readings and Research in Mass Communications (1-3 cr.)\***

special cases, in an Amerindian language or Haitian Creole.

**Final Examination** Written examination, which must be passed in the last semester of course work. At the discretion of the director, an oral examination may be required following the written examination.

Alternatively, a thesis may be written with prior approval of thesis proposal by the steering committee. Following approval of the completed thesis, an oral exam on the thesis is to be taken at least two weeks before the end of the semester in which degree is to be granted.

## Dual Degree: Master of Arts in Latin American and Caribbean Studies and Master of Business Administration

The Center for Latin American and Caribbean Studies and the School of Business jointly offer a three-year program that qualifies students for two master's degrees. Study for these two degrees in the dual degree (M.A./M.B.A.) can be completed in a total of 64.5 credit hours rather than the 84 credit hours that would otherwise be required to take the two degrees separately (since certain courses contribute to both degrees). The two degrees must be awarded simultaneously.

The LTAM (Latin American and Caribbean Studies) M.A. degree requires a total of 30 credit hours, 24 hours of which must be taken in Latin American and Caribbean Studies under the requirements established for the M.A. Of these, the interdisciplinary seminar L501 must be taken, together with 21 credit hours in other LTAM courses or those Latin American and Caribbean Studies courses that are cross-listed with other departments or Schools, except the School of Business. All other requirements for completion of the Latin American Studies M.A., including language proficiency and thesis or oral examination remain as listed in this bulletin.

Students must also take 40.5 credit hours in the School of Business under the requirements of the M.A./M.B.A. degree, including the Foundations and Functional Cores through the M.B.A. program, L506, L509 and the Strategy Component. Up to six credit hours taken in the School of Business may be counted as part of the 30 credit hours normally required for the M.A. degree in LTAM.

Application for admission to the dual M.A./M.B.A. degree program must be made to the Center for Latin American and Caribbean Studies and the University Graduate School for study toward the M.A. and to the School of Business for study toward the M.B.A. Students

must be accepted by all three units in order to be admitted to the program.

### **Dual Degree: Master of Arts in Latin American and Caribbean Studies and Master of Library Science**

The School of Library and Information Science (SLIS) and the Center for Latin American and Caribbean Studies jointly offer a three-year program that qualifies students for two master's degrees. Study for these two degrees in the dual degree (M.A./M.L.S.) can be completed in a total of (51) credit hours rather than the (66) credit hours that would otherwise be required to take the two degrees separately. During the dual degree, specific courses contribute to both degrees. The two degrees must be awarded simultaneously.

Students must take 21 credit hours of advanced courses relating to Latin American and Caribbean Studies. The interdisciplinary seminar L501 (3 credits) must be taken, together with 18 credit hours in other LTAM courses or those Latin American and Caribbean Studies courses that are cross-listed with other departments. All other requirements for completion of the Latin American Studies M.A., including language proficiency and thesis or oral examination remain as listed in this bulletin. A further 6 credit hours may be taken in SLIS and will count towards both degrees: L620 Topics in Information, Literature, and Bibliography (topic: Latin American Bibliography) and L596 Internship in Library and Information Science (under the supervision of the Latin American Bibliography).

For the M.L.S. degree, admission requirements remain as listed in the School of Library and Information Science Bulletin, and the proposed dual program requires 30 credit hours of SLIS graduate courses. These must include three courses (9 credits) from the common core (which must include L507 and L509), and four courses (12 credits) from the specific core (L520, L524, L526 and L528). Three other science electives and should include L570.

Application for admission to the dual M.A./M.L.S. degree program must be made to the Center for Latin American and Caribbean Studies for study toward the M.A. and to SLIS for study toward the M.L.S. Students must be accepted by both units in order to be admitted to the program.

### **Ph.D. Area Certificate**

**Admission Requirement** Acceptance into a Ph.D. program. Area certificate awarded only upon completion of the Ph.D. degree.

**Areas of Concentration** Latin America and the Caribbean.

**Course Requirements** A total of 18 credit hours with Latin American and/or Caribbean emphases, including one graduate seminar in the L501 series and 9 credit hours outside the student's major discipline and a dissertation on a Latin American or Caribbean topic.

**Grades** A minimum grade of B (3.0) is required in each course that is to count toward certificate requirements.

**Foreign Language Requirements** Reading proficiency in Spanish or Portuguese.

### **Ph.D. Minor in Latin American and Caribbean Studies**

The requirements for the Ph.D. minor are flexible. Each program is developed in consultations between the student, the academic advisor of the student's major department, and the director of Latin American and Caribbean studies, though certain basic requirements are common to all programs.

**Course Requirements** Fifteen (15) credit hours of course work directly related to Latin American or Caribbean subject matter, including at least one graduate seminar or readings course (3 credit hours) and 12 credit hours in two disciplines outside the student's major. Courses in the student's major department and language courses below the 500 level may not be applied to the Ph.D. minor.

**Examination** If a grade point average of at least 3.7 A is maintained, no examination will be required. Otherwise, the director of Latin American and Caribbean studies may stipulate that the student take a written examination.

**Program Certification** Certification that all requirements for the program have been met must come from the director of Latin American and Caribbean studies.

### **Courses**

The following courses complement the offerings of Latin American and Caribbean studies within related departments. Each is an interdisciplinary survey of the people, politics, economics, society, and culture.

- L400 Contemporary Mexico (3 cr.)
- L402 Contemporary Brazil (3 cr.)
- L403 Contemporary Central America (3 cr.)
- L406 Contemporary Peru and Chile (3 cr.)
- L425 Latin American and Caribbean Languages (1-4 cr.) Languages of Latin America and the Caribbean, other than Spanish and Portuguese. The following

languages are regularly offered: Nahuatl and Haitian Creole. May be repeated with different language or higher level for a maximum of six hours in any one language.

**L501 Seminar: Contemporary Latin America (3 cr.)** Two regions will be studied: one topic for each region, or one topic for the two regions. Regions to be cycled: Mexico, Caribbean and Central America, Andean countries, Southern Cone, Brazil. May be repeated once for credit.

**L520 New Latin American Cinema (3 cr.)** Survey of the Latin American film from the 1950s to the present. Taught in English, the course is interdisciplinary and cross-cultural, emphasizing the socioeconomic and political issues that gave rise to a specific movement.

**L526 Special Topics in Latin American and Caribbean Studies (1-3 cr.)** Intensive study and analysis of selected Latin American and Caribbean studies problems of limited scope within an interdisciplinary format. Topics will vary and will ordinarily cut across fields, regions, or periods. May be repeated for credit.

**L803 Individual Readings in Latin American Studies (1-6 cr.)** Draws upon materials from anthropology, business, economics, education, fine arts, folklore, geography, history, political science, sociology, and Spanish and Portuguese literature. May be repeated for a maximum of 8 credits (or 10 credits if 6 are used for the thesis option).

For courses in other departments acceptable for degree and certificate requirements, consult the director of Latin American and Caribbean Studies.

## **Law**

**School of Law  
Bloomington**

Dean Professor Alfred C. Aman Jr.

### **Graduate Faculty**

James Louis Calamaras Professor Craig Bradley

Willard and Margaret Carr Professor Kenneth Dau-Schmidt

C. Ben Dutton Professor William Hicks

Walter W. Foskett Professor William Popkin

Robert H. McKinney Professor Roger Dworkin

Richard S. Melvin Professor Gene R. Shreve

Roscoe C. O'Byrne Professor Alfred C. Aman Jr.

Professors Patrick Baude, Terry Bethel, Douglas Boshkoff (Emeritus), Fred Cate,

Daniel Conkle, Stephen Conrad, Donald Gjerdingen, Edwin Greenebaum (Emeritus), Julia Lamber, Val Nolan Jr. (Emeritus, Biology), Harry Pratter (Emeritus), Lauren Robel, John Scanlan, F. Thomas Schomhorst (Emeritus), Jeffrey Stake, J. Alexander Tanford, David C. Williams, Susan Hoffman Williams

**Graduate Advisor** Professor Joseph Hoffmann, Law Building 247, (812) 855-6150

**Degrees Offered** Master of Laws and Doctor of Philosophy in Law and Social Science. In addition, the School of Law-Bloomington offers the Master of Comparative Law (M.C.L.), The Doctor of Juridical Science (S.J.D.), and Doctor of Jurisprudence degrees; for information regarding these degrees see the Bulletin of the School of Law-Bloomington.

### **Special School Requirements**

(See also general University Graduate School requirements.)

**Admission Requirements** Graduation from an approved law school and presentation of a superior law school record. In considering applications from international students, the difference in academic systems is taken into account, and an effort is made to equate the student's background with the requirements described above. International students should note that the requirements for a degree include satisfactory completion of written examinations in courses and of research papers in seminars.

### **Master of Laws Degree**

**Course Requirements** A total of 30 credit hours, some of which are in required courses; 6-10 credit hours may be devoted to research.

**Thesis** Scholarly investigation of a legal problem or of a social science problem directly related to law.

### **Doctor of Philosophy Degree in Law and Social Science**

This program is designed to allow qualified students to pursue interdisciplinary research and problem solving in areas where law and social science overlap. Inquiries about this program may be addressed to the dean of the University Graduate School.

**Ph.D. Minor in Law** The School of Law offers a Ph.D. minor for students from other fields, which requires completion of 13-16 credit hours of course work. There are two required courses: a basic methodological course, such as contracts, torts, property, constitutional law, criminal law, or civil procedure; and either a research seminar (2 credits) or independent research (2 credits).



Other courses to be taken will depend on the student's interests and needs and shall be recommended by the assigned faculty advisor from the School of Law and approved by the student's Ph.D. advisory committee and the appropriate chairperson or the dean of the student's school. Examinations are required for individual courses, but none is required for the minor itself.

The minor chairperson in the School of Law is Assistant Dean Leonard Fromm, Room 024, (812) 855-5361.

## Courses

For a list of courses and their descriptions, see the bulletin of the School of Law-Bloomington.

## Liberal Studies

### Fort Wayne

**Program Director** Associate Professor Michael E. Kaufmann

**Departmental e-mail:** kaufmann@ipfw.edu

**Departmental URL:** <http://www.ipfw.edu/libstudies/>

**Degree Offered** Master of Liberal Studies, an interdisciplinary graduate degree in arts and sciences. The degree provides an opportunity for students to study the liberal arts and sciences beyond the bachelor's degree. It is intended primarily for those who regard the liberal arts as subjects for lifelong learning and for those who, because their undergraduate curriculum was primarily professional, wish to broaden their general education. The Master of Liberal Studies is not intended as preparation for doctoral study.

**Admission Requirements** For regular admission, students must have completed an undergraduate degree from an accredited institution with a grade point average of B or higher overall. Applications are accepted at any time, but a deadline of August 1 is recommended for admission to the program for the fall semester, and December 1 for the spring semester. Request application materials from the program director, Associate Professor Michael E. Kaufmann, at (219) 481-6760 or 481-6019.

**Course Requirements** To earn the Master of Liberal Studies degree, students must complete at least 30 hours of courses approved for graduate credit, including D501 Humanities Seminar, D502 Social Sciences Seminar, D503 Science Seminar, either D500 Graduate Project or D700 Topics in Liberal Studies, and 18 credits in electives from at least two disciplines in arts and sciences.

In consultation with the program director, each student designs a course of study appropriate to his or her interests and experience.

**Grades** No course with a grade lower than B will be counted toward the degree.

## Courses

**D500 Graduate Project (3-6 cr.)** Independent project to be undertaken in consultation with graduate advisor. This project requires students to demonstrate mastery of some specific topic or medium of expression.

**D501 Humanities Seminar (3 cr.)** An interdisciplinary graduate seminar in the humanities. Topics vary from semester to semester.

**D502 Social Science Seminar (3 cr.)** An interdisciplinary graduate seminar in the social sciences. Topics vary from semester to semester.

**D503 Science Seminar (3 cr.)** An interdisciplinary graduate seminar in the sciences. Topics vary from semester to semester.

**D700 Topics in Liberal Studies (3 cr.)** P: completion of two 500-level liberal studies seminars or consent of program director. Intensive study of major issues in the humanities, social sciences, or sciences. Interdisciplinary approach, seminar format. Individual project required. Specific topic announced in *Schedule of Classes*. May be repeated with different topic for a maximum of 9 credits.

## Liberal Studies

### South Bend

**Graduate Director** Professor Patrick J. Furlong

**Departmental e-mail:** ptfurlong@iusb.edu

**Departmental URL:** <http://www.iusb.edu/~mfs>

The Division of Liberal Arts and Sciences offers instruction leading to the degree Master of Liberal Studies. The interdisciplinary program provides an opportunity for students to study the liberal arts and sciences beyond the bachelor's degree. It is intended primarily for those who regard the liberal arts as subjects for lifelong learning and for those who, because their undergraduate curriculum was primarily professional, wish to broaden their general education. The Master of Liberal Studies is not intended as preparation for doctoral study. In addition to taking three required graduate seminars, students complete a project and a program of electives designed to meet their own interests and needs.

## Special Program Requirements

**Admission Requirements** Students are admitted to the Master of Liberal Studies program by the Graduate Studies Committee of the Division of Liberal Arts and Sciences. To be considered for admission, students must hold a bachelor's degree from an accredited institution and must have obtained an undergraduate grade point average of at least B (3.0), but the committee may make exceptions to this latter requirement. Application forms and further details may be obtained from the director of graduate studies in the Division of Liberal Arts and Sciences, Wiekamp Hall 3247, or by calling (219) 237-4256.

**Application Deadlines** Students seeking admission to the Master of Liberal Studies program should submit all application materials by July 15 for admission in the fall semester and by November 15 for admission in the spring semester. Late applications may be considered if there are vacancies in the program.

**Grades** An average grade of B (3.0) is required for graduation, and no course with a grade lower than B - (2.7) will be counted toward the degree. Students are required to remain in academic good standing, i.e., to maintain a grade point average of at least 2.7. Failure to maintain good standing may result in dismissal from the program.

## Master of Liberal Studies Degree

**Course Requirements** A total of 30 credit hours of graduate-level work, including D500, D501, D502, D503, and 15 credit hours of electives selected to provide support and background for the graduate project or to enable students to understand new areas of knowledge from an interdisciplinary point of view. Not more than 9 credit hours of electives may be taken in any one department. Programs of study must be approved by the graduate director.

**Master of Liberal Studies Project** Required: 6 credits. The graduate project is a scholarly enterprise in which the student demonstrates mastery of a specific topic, by means of, for example, a thesis, a computer program, a translation of a work of literature, or an artistic composition or performance. Students plan and execute their projects after completion of the three core courses.

## Required Courses

**D500 Graduate Project (3-6 cr.)**

**D501 Humanities Seminar (3 cr.)** An

interdisciplinary graduate seminar in the humanities. Topics vary from semester to semester. May be repeated once for credit.

**D502 Social Science Seminar (3 cr.)** An interdisciplinary graduate seminar in the social

sciences. Topics vary from semester to semester. May be repeated once for credit.

**D503 Science Seminar (3 cr.)** An interdisciplinary graduate seminar in the natural sciences. Topics vary from semester to semester. May be repeated once for credit.

## Liberal Studies

### Southeast

**Program Director** Associate Professor Sandra French (Sociology)

**Degree Offered** The Master of Liberal Studies program is an interdisciplinary graduate program that offers study beyond the bachelor's level for those persons who are interested in continuing their education in a diversified, challenging manner. The program is not meant to prepare students for doctoral study.

**Admission Requirements** For regular admission, students must have completed an undergraduate degree from an accredited institution with a grade point average of B or above. Applicants are accepted anytime, but to assure enrollment students should apply by July 31 for the fall semester and November 30 for the spring. Applications may be obtained through the Master of Liberal Studies office at Crestview Hall 018B or by calling (812) 941-2604 or (812) 941-2393.

**Course Requirements** Students are required to complete 30 hours of courses that have been approved for graduate credit. These courses must represent all three of the arts and sciences divisions and must include 9 credits of graduate seminars D501, D502, D503, and six credits of graduate project (D500).

**Grades** Only courses in which a grade of at least a B is earned will count toward the degree.

## Courses

**D500 Graduate Project (3-6 cr.)** Independent project to be undertaken in consultation with graduate committee. This project requires students to demonstrate mastery of some specific topic or medium of expression.

**D501 Humanities Seminar (1-3 cr.)** An interdisciplinary graduate seminar in the humanities. Topics vary from semester to semester.

**D502 Social Science Seminar (1-3 cr.)** An interdisciplinary graduate seminar in the social sciences. Topics vary from semester to semester.

**D503 Science Seminar (1-3 cr.)** An interdisciplinary graduate seminar in the sciences. Topics vary from semester to semester.

## Library and Information Science

School of Library and Information Science  
Bloomington

Dean Professor Blaise Cronin

### Graduate Faculty

**Distinguished Professors** David Kaser  
(Emeritus), Herbert White (Emeritus)

**Rudy Professor** Blaise Cronin

**Professors** Stephen Harter (Emeritus), Rob  
Kling

**Associate Professors** Josefa Abreia  
(Emerita), Daniel Callison, Andrew Dillon,  
Shirley Fitzgibbons (Emerita), Javed Mostafa,\*  
Marcy Murphy (Emerita), Thomas Nisonger,  
Verna Pungitore, Judith Serebnick (Emerita),  
Debra Shaw, George Whitbeck (Emeritus)

**Assistant Professors** Elin Jacob,\* Uta Priss,\*  
Howard Rosenbaum,\* Bob Travica\*

**Adjunct Professor** Michael McRobbie  
(Computer Science)

**Senior Fellow** Charles H. Davis, Jean  
Umiker-Sebeok

**Visiting Scholar** Elisabeth Davenport\*

**Graduate Advisor** Director of Doctoral  
Program Verna Pungitore, University Library  
015, (812) 855-3246

**Degrees Offered** Doctor of Philosophy, and,  
jointly with other academic programs, Master  
of Library Science and Doctor of  
Jurisprudence; Master of Library Science and  
master's degree in art history, comparative  
literature, history, history and philosophy of  
science, journalism, Latin American and  
Caribbean Studies, music theory or  
musicology, public affairs, and Russian and  
East European Studies. The School of Library  
and Information Science also offers the  
Specialist in Library and Information Science,  
the Master of Library Science, the Master of  
Information Science, the Master of Library  
Science with specialization in African Studies  
Librarianship, the Master of Library Science  
with specialization in music, and the Master of  
Library Science or Master of Information  
Science with specialization in chemical  
information degrees. For further information,  
see the School of Library and Information  
Science Bulletin.

### Special School Requirements

(See also general University Graduate School  
requirements.)

## Doctor of Philosophy Degree

**Admission Requirements** Bachelor's degree,  
a combined GRE score of at least 1500 (with  
600 or higher on one of the three tests),  
personal interview, and a grade-point average  
of at least 3.5.

**Course Requirements** A total of 90 credit  
hours, including L701, L702, L710, L790, and  
L799 dissertation (15 credit hours).

**Major** Any area of information science  
approved by the student's advisory  
committee.

**Minor** A total of 12 to 15 credit hours.

**Research Skills** Basic requirement:  
introductory statistics course and a second  
graduate course in statistics or a course in  
research design. The research-skill  
requirement may then be completed by  
passing, with a grade of B or better, a third  
graduate course in statistics or a course in  
research design.

**Qualifying Examination** Written paper and  
oral presentation, over the field of  
concentration, emphasizing theory and  
research methods. Examination over the minor  
field at the discretion of the minor-field  
department.

**Final Examination** Confined to dissertation  
and related matters.

**Ph.D. Minor in Library and Information  
Science** The School of Library and  
Information Science offers an outside minor  
through the University Graduate School for  
Ph.D. students in other fields. Ordinarily,  
students will take from 12 to 15 credit hours of  
graduate credit in fulfilling this option  
(minimum: 12 credit hours).

## Courses

For course descriptions see the School of  
Library and Information Science Bulletin.

**L501 Information and Society** (3 cr.)

**L503 User Needs and Behavior in Theory and  
Practice** (3 cr.)

**L505 Organization and Representation of  
Knowledge and Information** (3 cr.)

**L507 The Management of Information  
Environments** (3 cr.)

**L509 Introduction to Research and Statistics**  
(3 cr.)

**L514 Library Preservation: Principles and  
Practice** (3 cr.)

**L515 History of the Book** (3 cr.)

**L516 Introduction to Archives and Records  
Management** (3 cr.)

**L517 History of Libraries** (3 cr.)

**L520 Bibliographic Access and Control** (3 cr.)

**L522 Perspectives on Librarianship, Literacy,  
Communications, and Reading** (3 cr.)

**L524 Information Sources and Services** (3 cr.)

**L526 Library Automation** (3 cr.)

**L528 Collection Development and  
Management** (3 cr.)

**L530 Legal Bibliography and Law Library  
Administration** (3 cr.)

**L533 Library Materials for Children and  
Young Adults** (3 cr.)

**L534 Principles and Techniques of  
Storytelling** (3 cr.)

**L535 Library Services for Children and  
Young Adults** (3 cr.)

**L542 Introduction to Human-Computer  
Interaction (HCI)** (3 cr.)

**L543 Strategic Intelligence** (3 cr.)

**L544 Information Technology  
Standardization** (3 cr.)

**L545 Systems Analysis and Design** (3 cr.)

**L546 User-Centered Database Design** (3 cr.)

**L547 The Organizational Information  
Resource** (3 cr.)

**L548 Computer Programming for  
Information Management** (3 cr.)

**L550 Issues in the Management of Library  
Services and Programs** (3 cr.)

**L551 Information Inquiry for School  
Teachers** (3 cr.)

**L552 Audio and Video Information Sources  
and Delivery** (3 cr.)

**L553 The School Library Media Specialist  
(3 cr.)**

**L554 Bibliographic Instruction** (3 cr.)

**L559 Introduction to Health Sciences  
Librarianship** (3 cr.)

**L561 The Information Industry** (1-3 cr.)

**L562 Information Accounting** (3 cr.)

**L563 Information Policy, Economics, and Law**  
(1-3 cr.)

**L570 Online Information Retrieval** (3 cr.)

**L571 Information Networking** (3 cr.)

**L574 Communication in Electronic  
Information Environments** (3 cr.)

**L576 Digital Libraries** (3 cr.)

**L577 Design of Information Systems** (3 cr.)

**L578 User Interface Design for Information  
Systems** (3 cr.)

**L587 Rare Book Libraries and Librarianship**  
(3 cr.)

**L592 Bibliometric Techniques and Problems**  
(3 cr.)

**L594 Research in Library Science** (cr. arr.)\*

**L595 Workshop for Librarians and Information  
Specialists** (cr. arr.)

**L596 Internship in Library and Information  
Science** (2-6 cr.)

**L597 Topics in Library and Information  
Science** (1-4 cr.)

**L600 Readings in Library and Information  
Science** (1-4 cr.)\*

**L605 Seminar in Education for Librarianship  
and Information Studies** (3 cr.)

**L608 Seminar in Intellectual Freedom** (3 cr.)

**L610 International Information Issues** (3 cr.)

**L620 Topics in Information, Literature, and  
Bibliography** (3 cr.)

**L622 Library Materials for Adults** (3 cr.)

**L623 Information in the Humanities** (3 cr.)

**L624 Information in Science and Technology**  
(3 cr.)

**L625 Information in the Social Sciences** (3 cr.)

**L628 Government Information: Collection,  
Organization, and Dissemination** (3 cr.)

**L629 Business Information Sources** (3 cr.)

**L630 Seminar in Art Librarianship** (3 cr.)

**L631 Seminar in Music Librarianship** (3 cr.)

**L633 Seminar on Issues and Trends in  
Children's or Young Adult Literature**  
(3 cr.)

**L641 Information Storage and Retrieval  
Theory** (3 cr.)

**L642 Information Usage and the Cognitive  
Artifact** (3 cr.)

**L643 Computer Applications in Information  
Systems** (3 cr.)

**L651 Evaluation of Resources and Services**  
(3 cr.)

**L658 Personnel Management in Libraries and  
Information Centers** (3 cr.)

**L697 Advanced Topics in Information  
Systems** (1-4 cr.)

**L701 Introduction to Doctoral Research in  
Library and Information Science** (3 cr.)

**L702 Research Practicum** (2 cr.)

**L709 Introduction to Research and Statistics**  
(3 cr.)

**L710 Research in Library and Information  
Science** (3-6 cr.)

**L763 Research Problems and Methods in  
Information Science** (3 cr.)

**L764 Seminar in Information Science** (3 cr.)

**L765 Research in Information Systems** (2-4 cr.)

**L790 Seminar in Doctoral Research** (3 cr.)

L799 Ph.D. Thesis (cr. arr.)\*

## Cross-Listed Courses

### Graduate

**G732 Bibliography of Sub-Saharan Africa** (3 cr.) Introduction to the bibliography of Africa south of the Sahara, covering major reference works and bibliographies; regional, trade, and national bibliographies; government publications, social sciences, humanities, statistics, rare books, manuscripts, and online databases. Compilation of comprehensive bibliography required.

## Linguistics

**College of Arts and Sciences**  
Bloomington

**Departmental e-mail:** lingdept@indiana.edu  
**Departmental URL:** <http://www.indiana.edu/~lingdept/>

**Chairperson** Professor Steven Franks

### Graduate Faculty

**Distinguished Professor** Thomas A. Sebeok  
(Emeritus, Anthropology, Central Eurasian Studies, Semiotics)

**Rudy Professor** Albert Valdman (French and Italian)

**Professors** Daniel Dinnsen, Steven Franks (Slavic Languages and Literatures), Paul Newman (West African Languages Institute), Robert Port (Cognitive Science), Alo Raun (Emeritus, Central Eurasian Studies)

**Associate Professors** Robert Botne, Stuart Davis, Michael Casser (Computer Science), Yoshihisa Kitagawa, Samuel G. Obeng, Barbara Vance (French and Italian)

**Assistant Professors** Julie Auger\* (French and Italian), Kenneth de Jong

**Adjunct Professors** Kathleen Bardovi-Harling (TESOL/Applied Linguistics), Phil Connell (Speech and Hearing Sciences), Harry L. Gradman, (TESOL/Applied Linguistics), Beverly Hartford (TESOL/Applied Linguistics), David Pisoni (Psychology), Natsuko Tsujimura (East Asian Languages and Cultures)

**Adjunct Associate Professors** J. Clancy Clements (Spanish and Portuguese), George Fowler\* (Slavic Languages and Literatures), Lawrence Moss (Mathematics), Roxana Newman\* (Affiliate Member), Rex Sprouse (Germanic Studies)\*

**Fields of Study** The doctorate is normally pursued in areas such as phonetics, phonology, syntax, semantics, historical linguistics, African linguistics, applied linguistics (including second language acquisition), and sociolinguistics. Other concentrations, including a combined degree with cognitive science, are also possible with the approval of the department.

**Course Requirements** A minimum of 90 credit hours, including dissertation. Specific requirements include one graduate course each in phonetics, phonology, syntax, historical linguistics, and language acquisition, plus at least four courses in linguistics at the 600-700 levels, one of which must be L600 or L602 for students in general linguistics. L653, the first half of the field methods sequence, may not be counted if it is used in partial fulfillment of the language structure requirement. Additional course requirements may be set by the student's advisory committee.

**Minor** The choice of a minor field should be agreed to by the student's advisory committee. The specific requirements for the minor are established by the department that grants the minor. The student is responsible for ascertaining what those requirements are and for meeting them.

**Advisory Committee** All students in the Ph.D. program will select an advisory committee consisting of at least three faculty members, one of whom should normally represent the student's minor field. The committee must be selected no later than the end of the semester following the completion of the master's degree at Indiana University, or, in the case of students entering the program with master's degrees from other institutions, no later than two semesters after matriculation.

Students will plan their programs with the advisory committee, which will be responsible for counseling students with regard to the qualifying examination, setting the examination, and administering it.

**Foreign Language Requirements** Three languages; (1) reading or speaking knowledge of two foreign languages, one of which should be either French, German, or Russian; and (2) knowledge of the structure of a language or languages other than English and outside the student's general language family (choice to be determined in consultation with the student's advisory committee).

**Qualifying Examination** Comprehensive; the examination is on two distinct areas of linguistics and may require the student to

write two papers (of publishable quality), take two take-home or sit-down exams, or some combination of these; specific focus and scheduling of the examination is determined by the student's advisory committee.

**Research Proposal** After nomination to candidacy, the student will select a research committee composed of no fewer than three members of the Department of Linguistics faculty and an outside representative. This committee must approve the proposed dissertation topic.

**Final Examination** Oral defense of dissertation. This defense is open.

## Ph.D. in Linguistics with a Concentration in African Languages and Linguistics

**Course Requirements** A minimum of 90 credit hours, including dissertation. Specific requirements include A501, L653-L654, one graduate-level course each in phonetics, phonology, syntax, and historical linguistics, plus at least two additional courses in linguistics at the 600-700 levels. Where appropriate, additional courses may be assigned by the student's advisory committee.

**Foreign Language Requirements** Three languages: (1) proficiency in two foreign languages, one of which must be an African language and the other normally French or German; and (2) knowledge of the structure of a foreign language or language group other than Romance or Germanic.  
(All other requirements are the same as the above for the Ph.D. in Linguistics.)

**Ph.D. Minor in Linguistics** Doctoral students in other departments may choose linguistics as an outside minor. Twelve (12) credit hours of linguistics or related courses are required for the minor. A grade point average of 3.0 (B) or better must be achieved in these courses. The specific program for satisfying this requirement should be developed in consultation with the linguistics outside minor advisor.

**Ph.D. Minor in African Languages and Linguistics** The minor consists of a minimum of four courses (12 credits) including the following: (1) one course in an African language at the 200 level or higher, (2) A501, and (3) two additional courses in African languages or linguistics approved by the student's minor advisor. A grade point average of 3.0 (B) or better must be achieved in these courses.

**Ph.D. Minor in Applied Linguistics** The minor consists of a minimum of 12 credit

hours of TESOL and applied linguistics or related courses. A grade point average of 3.0 (B) or better must be achieved in these courses. The specific program for satisfying this requirement must be developed in consultation with the student's minor advisor.

### Courses

**L503 Survey of Linguistics I (3 cr.)** An introduction to the field of linguistics. Credit not given towards the M.A. in general linguistics or the Ph.D. in linguistics.

**L520 Sociolinguistics (3 cr.)** Examination of theoretical perspectives on language as a social phenomenon. Questions of linguistic variation, including social and contextual factors contributing to variation.

**L525 Language Change and Variation (3 cr.)**

**L530 Introduction to Historical Linguistics (3 cr.)** P: L542 or equivalent. Principles of language classification and subclassification. Processes of diachronic change. Methods of linguistic reconstruction, especially the comparative method and internal reconstruction.

**L541 Introductory Phonetics (4 cr.)** Survey of speech sound types in languages of the world with practice in discrimination, transcription, and production. Introduction to acoustic phonetics, physiology of speech production, and speech perception; with concurrent laboratory section.

**L542 Phonological Analysis (3 cr.)** An introduction to the principles of contemporary phonological theory and tools of phonological analysis and description. The format of the course is oriented toward data-based problems from a wide variety of languages.

**L543 Syntactic Analysis (3 cr.)** An examination of the methods and argumentation used in syntactic analysis conducted within the framework of generative grammar. Emphasis on constructing and evaluating grammatical analyses and promoting critical understanding of the generative framework.

**L544 Morphological Analysis (3 cr.)** Introduction to the basic concepts and approaches to morphological analysis and description to different theories of word structure and to issues in the relation between morphology and phonology and between morphology and syntax. Data-based problem solving from a wide variety of languages.

**L545 Semantics (3 cr.)** P: L543. Introduction to current semantic theory, its tools, concepts, and principles. Emphasis on constructing detailed fragments of natural language with syntactic and semantic components.

**L590 Linguistic Structure (3 cr.)** P: consent of instructor. Analysis of particular aspects of the structure of a language or of a group of closely

related languages. Methods used may include text analysis, informant work, study of secondary sources, lectures, reports.

**L600 Advanced Phonological Description (3 cr.)** Problems of phonological description and their theoretical implications. Practice in formulating and evaluating explanatory statements about various phonetic, phonotactic, and morphophonemic properties of languages.

**L602 Advanced Syntax (3 cr.)** P: L543.

Syntactic analysis and its significance in the development and refinement of standard syntactic theory.

**L611 Models of Linguistic Structure (3 cr.)** Formulations of linguistic structures—finite—set, phrase-structure, transformational dependency, predictive—with emphasis on their mathematical properties. Mathematical concepts underlying these formulations, such as sets, relations, Markov processes, and automata.

**L614 Alternative Syntactic Theories (3 cr.)** P: L543. An examination of a current syntactic framework other than the standard framework in terms of specific issues of syntactic analysis and general claims about the nature and organization of the syntax of natural languages. Emphasis on developing analyses within that framework. May be repeated for credit when topic varies.

**L619 Language and Society (3 cr.)**

**L625 Bilingualism and Language Contact (3 cr.)** Problems of multilingualism, including diglossia. Examination of selected cases illustrating the relationship between language contact and linguistic change.

**L630 Lexicology (3 cr.)** Analysis of the lexical structure of languages. The word and its morphological and semantic properties. Application of lexicology to practical problems in dictionary making (lexicography).

**L636 Pidgins and Creoles (3 cr.)** Survey of the field of pidgin and creole linguistics: presentation of the structure of selected prototypical pidgins and creoles; review of the theories for the genesis of creoles and their relationship to current issues in language acquisition and historical linguistics; discussion of language planning issues specific to pidgins and creoles, as well as discussion of current issues.

**L641 Advanced Phonetics (3 cr.)** P: L541. Experimental analysis of the speech signal; speech articulation and the structure of phonetic space. A survey of current theories of speech production and perception with experience designing and conducting experiments, and some consideration of phonetic factors that determine the choice of particular sound contrasts in languages.

**L645 Linguistics and Computers (3 cr.)**

Analyzing and describing natural languages for translating or data processing with the aid of electronic computers.

**L653-L654 Field Methods in Linguistics I-II (3-3 cr.)** Techniques of data collection and analysis based on work with a native speaker of a language unknown to the students.

**L670 Language Typologies (3 cr.)** Historical review of typologies. Specific languages controlled by students will be typologized in different ways.

**L690 Advanced Readings in Linguistics (1-4 cr.)** S-F Grading.

**L695 M.A. Thesis Research (1-4 cr.)**\*

**L700 Seminar on Current Issues (1-4 cr.)** This seminar will deal with major books and articles which have defined important areas of debate in the current development of linguistic theory. The specific title will be announced well in advance of each semester. Course may be retaken for up to 12 credit hours.

**L710 Seminar in Phonetics (4 cr.)** Selected problems in the acoustic, motor, and auditory structure of the sounds of human language. May be repeated for credit when topic changes.

**L712 Seminar in Phonology (4 cr.)** Research and reports on selected problems of generative phonology. May be repeated for credit when topic changes.

**L714 Seminar in Syntax (4 cr.)** Advanced treatment of a topic, construction, or theoretical concept in syntax using a current theoretical model. May be repeated for credit when topic changes.

**L720 Seminar in Sociolinguistics (4 cr.)** Selected problems concerning the relationship between language and society. May be repeated for credit when topic changes.

**L760 Seminar in Historical Linguistics (4 cr.)** Selected problems concerning linguistic reconstruction, processes of diachronic change, and language classification. May be repeated for credit when topic changes.

**L780 Seminar in Semantics (4 cr.)** Selected problems in the area of meaning and the relationship between language and semantic interpretation. May be repeated for credit when topic changes.

**L800 Research (cr. arr.)**\*

THE LINGUISTIC STUDY OF AFRICAN LANGUAGES

**A501 Introduction to African Linguistics (3 cr.)** Introduction to the linguistic study of African languages; questions of language distribution, typological and genetic classification, comparative reconstruction, and structural aspects of individual languages.

**A502 Language in Africa (3 cr.)** Language in the lives and behavior of African people.

Dynamics of language spread and multilingualism. Literacy, language, and education. Linguistic ritual, greetings, condolences, apologies, leavetakings, joking and insulting relationships. Stories and storytellers. Proverbs and their use. Power of language in society.

**A503 Bantu Linguistics (3 cr.)** Structural comparisons of Bantu languages at levels of phonology, morphology, and syntax, noting differences and similarities of various East African languages.

**A504 Chadic Linguistics (3 cr.)** R: reading knowledge of French or German. An introduction to the Chadic language family. The relationship of Chadic to Afroasiatic and the membership and internal classification of the Chadic family. Common structural features of present-day Chadic languages and the reconstruction of Proto-Chadic.

**A747 Seminar in African Linguistics (4 cr.)** Research on specific problems of African linguistics. Course may be repeated for credit.

AFRICAN AND OTHER LANGUAGES

**A400 Advanced Individual Study of an African Language (1-4 cr.; 12 cr. max.)** May be repeated for credit.

**L506 Tutorial Instruction in Foreign Languages (cr. arr.)** May be repeated for credit.

Haitian Creole

C501-C502 Haitian Creole I-II (3-3 cr.)

Hausa

H101-H102 Elementary Hausa I-II (3-3 cr.)<sup>1</sup>

H201-H202 Intermediate Hausa I-II (3-3 cr.)

H301-H302 Advanced Hausa I-II (3-3 cr.)

Swahili

S101-S102 Elementary Swahili I-II (3-3 cr.)<sup>1</sup>

S201-S202 Intermediate Swahili I-II (3-3 cr.)

S301-S302 Advanced Swahili I-II (3-3 cr.)

Other African Languages

F101-F102 Elementary African Languages I-II: [name of language] (3-3 cr.)<sup>1</sup>

F201-F202 Intermediate African Languages I-II: [name of language] (3-3 cr.)

F301-F302 Advanced African Languages I-II: [name of language] (3-3 cr.)

Consult the department for courses in other areas acceptable for degree requirements.

<sup>1</sup> Three (3) hours credit for graduate students; 4 hours credit for undergraduates.

## Mass Communications

College of Arts and Sciences  
Bloomington

**Co-Directors** Professor Walter Gantz and Associate Professor Trevor Brown

### Graduate Faculty

**Professors** John Ahlhauser (Emeritus, Journalism), James Brown (Journalism), Richard Burke (Emeritus, Telecommunications), I. Wilmer Counts (Emeritus, Journalism), Dan Drew (Journalism), Jack Dvorak\* (Journalism), Susan Eastman (Telecommunications), Walter Gantz (Telecommunications), Ralph Holsinger (Emeritus, Journalism), Peter Jacobi (Emeritus, Journalism), Annie Lang (Telecommunications), David Nord (Journalism), Christine Ogan (Journalism), David H. Weaver (Journalism), G. Cleveland Wilhoit (Journalism), Richard Yoakam (Emeritus, Journalism, Telecommunications)

**Associate Professors** Donald Agostino (Telecommunications), David Boeyink\* (Journalism), Trevor Brown (Journalism), Bonnie Brownlee\* (Journalism), Jon Dills\* (Journalism), Owen V. Johnson (Journalism), Michael McGregor (Telecommunications), Carol Polsgrove (Journalism), Harmeet Sawhney (Telecommunications), S. Holly Stocking (Journalism), Herbert Terry (Telecommunications), David Waterman (Telecommunications)

**Assistant Professors** Randall Beam\* (Journalism), Erik Bucy\* (Telecommunications), Maria Grabe\* (Journalism), Andrew Rojecki\* (Journalism)

**Graduate Advisors** Associate Professor Linda Lawson, Ernie Pyle Hall 200, (812) 855-1699 (Journalism); Professor Annie Lang, R-TV Center, (812) 855-2017 (Telecommunications)

### Degree Offered

Doctor of Philosophy  
The Mass Communications Program is the doctoral program for the School of Journalism and the Department of Telecommunications. The program in mass communications prepares students (1) for teaching and research in mass communications, (2) for careers that demand advanced scholarship within professional media organizations, and (3) for careers in government that relate to mass media.

### Special Program Requirements

(See also general University Graduate School requirements.)

## Doctor of Philosophy Degree

See "Doctor of Philosophy Degree in Mass Communications" in the School of Journalism and the Department of Telecommunications entries for admission and degree requirements, course descriptions, and recommended courses in other departments.

### Courses

#### Graduate

**G741 Ph.D. Research in Mass Communications** (cr. arr.)\*

**G790 Readings and Research in Mass Communications** (1-3 cr.)\*

## Mathematical Physics

College of Arts and Sciences  
Bloomington

**Interdepartmental Graduate Committee on Mathematical Physics** Professor John Challifour (Mathematics, Physics)

**Chairperson:** Distinguished Professors Roger Newton (Emeritus, Physics), Ciprian Foias (Mathematics); Professors Jiri Dadok (Mathematics), Robert Glassey (Mathematics), David Hoff (Mathematics), Andrew Lenard (Emeritus, Mathematics, Physics), Professor Peter Sternberg (Mathematics)

**Academic Advisor** Professor John Challifour, Swain Hall West 235, (812) 855-3257

### Degree Offered

Doctor of Philosophy  
This program offers advanced graduate training for superior students in the overlapping areas of mathematics, theoretical physics, and their applications from a unified point of view and promotes research in this field.

General supervision of the program is controlled by the Interdepartmental Graduate Committee on Mathematical Physics. While no master's degree is offered, a student may qualify for a master's degree in mathematics or physics during the course of study. A student usually enters the program at the beginning of the second year of graduate study in mathematics or physics.

### Special Program Requirements

(See also general University Graduate School requirements.)

## Doctor of Philosophy Degree

**Admission Requirements** Students in the Mathematical Physics Program must be enrolled in either the Department of

Mathematics or the Department of Physics. Basic preparation should include courses in advanced calculus, linear algebra, modern algebra, complex variables, classical mechanics, electromagnetism, quantum mechanics, modern physics, thermodynamics, and statistical mechanics. Knowledge of the following fields is desirable: real analysis, differential equations, probability, topology, differential geometry, and functional analysis.

**Course Requirements** A total of 90 credit hours, including dissertation. Required courses are determined by the advisory committee on the basis of the student's previous training and main fields of interest.

**Advisory Committee** Composed of members of both the Departments of Mathematics and Physics.

**Minors** Mathematics and Physics.

### Foreign Language/Research-Skill Requirement

Same as in the department of residence.

**Qualifying Examination** Consists of parts of the Departments of Mathematics and Physics qualifying examinations, as determined by the student's advisory committee.

**Final Examination** Oral and public defense of dissertation.

### Courses

See listings of the Departments of Mathematics and Physics.

## Mathematics

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Daniel Maki

### Graduate Faculty

**College Professor** Roger Temam

### Distinguished Professor

Ciprian Foias  
**Professors** Steen Andersson, Goro Azumaya (Emeritus), S. Thomas Bagby, Eric Bedford, Grahame Bennett, Hari Bercovic, Rabi Bhattacharya, Richard Bradley, John Brothers, Arlen Brown (Emeritus), John Challifour (Physics), Jiri Dadok, James Davis, Vinay Deodhar, Allan Edmonds, Robert Glassey, Victor Goodman, Darrell Haile, David Hoff, Jan Jaworowski (Emeritus), Andrew Lenard (Emeritus, Physics), Charles Livingston, Morton Lowengrub (Emeritus), Russell Lyons, Daniel Maki, Kent Orr, Sergiy Pinchuk, Madan Puri, Billy Rhoades (Emeritus), George Springer (Emeritus, Computer Science), Joseph

Stampfli (Emeritus), Peter Sternberg, Maynard Thompson, Alberto Torchinsky, Lanh Tran, William Ziemer, Kevin Zumbur

**Associate Professors** Scott Brown, Marlies Gerber, William Gustin (Emeritus), Michael Jolly, Paul Kirk, Jee Heub Koh, Michael Larsen, Valery Lunts, Robert MacKenzie (Emeritus), Lawrence Moss, Ji-Ping Sha, Bruce Solomon, Shouhong Wang,\* William Wheeler, Yuxi Zheng

**Assistant Professor** Zhengan Wang\*

**Director of Graduate Studies** Professor Jiri Dadok, Rawles Hall 130, (812) 855-2645

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate mathematics major or its equivalent.

**Area Options** In order to describe the various concentration requirements, the Department of Mathematics has classified its courses into three areas: pure mathematics, applied mathematics-numerical analysis, and probability-statistics. Each of these areas is further subdivided into fields. Pure mathematics is subdivided into analysis (real and complex), algebra, topology and geometry, and logic and foundations. Applied mathematics-numerical analysis is subdivided into applied mathematics, mechanics, and numerical analysis. Probability-statistics is subdivided into probability and statistics.

## Master of Arts Degree

**Course Requirements** A total of 30 credit hours, of which 18 credit hours must be mathematics courses at the 500 level or above with a 3.0 (B) average. The total course work submitted must include courses satisfying one of the following options and must be approved by the director of graduate studies.

1. Applied Mathematics Option. Courses including M511, M513, and at least two of the following: M540, M541, M544, M545, M571, M572. In addition, the student must take at least one 3 credit hour graduate course outside the Department of Mathematics.
2. Pure Mathematics Option. At least 6 credit hours in each of three of the following groups: algebra, analysis, applied mathematics and numerical analysis, logic and foundations, probability and statistics, topology and geometry, outside area (biology, psychology, computer science, economics, chemistry, physics, and others).

3. Statistics Option. M511, M563, M566, and at least two of the following: M561, M562, M564, M567, M568, M569, E671, or any other approved course outside the Department of Mathematics.

### Master of Arts for Teachers Degree

**Course Requirements** A total of 36 credit hours, with at least one 3 credit hour course in each of the following groups: algebra, analysis, probability and statistics, topology and geometry, applied mathematics and numerical analysis.

#### Restrictions

Only Department of Mathematics graduate courses numbered 400 or higher count toward the 20 credit hours required in the major; up to 6 credit hours of courses below 400 accepted, with consent of the director of graduate studies, in partial fulfillment of the remaining 16 credit hours.

### Doctor of Philosophy Degree

**Course Requirements** The following course requirements are designed to provide the broad background needed for the successful pursuit of research leading to the dissertation. Students must complete 36 credit hours in mathematics at the 500, 600, or 700 level, excluding M595-M596 and M599, and, in addition, must complete 2 credit hours in M599. Their program of study will depend upon their background and interests. Students should formulate a program in consultation with their faculty advisor. The total course work submitted for the degree must satisfy one of the options below. Reading courses may not be used to satisfy the requirements of these options unless they are specifically approved by the Graduate Director. A dissertation is required.

1. Applied Mathematics Option. Students must complete M511-M512, M513, and M540-M541. Students must also complete either 6 hours of graduate credit outside the Department of Mathematics in an area conducive to mathematical treatment and approved by the student's advisor, or 12 hours of graduate credit that is cross-listed with the Department of Physics. In addition, students must complete 6 hours of graduate credit in each of two of the following groups:
  - a. Algebra, and logic and foundations
  - b. Topology and geometry
  - c. Numerical analysis, probability, and statistics
2. Pure Mathematics Option. Students must complete 6 hours of graduate credit in five of the following groups, including 6 credit hours of 500-level courses in two of groups 1-4, and 6 credit hours of 500-level courses in another of groups 1-6.

necessary for the Ph.D. within a two-to three-year time frame.

**Tier 1 (Comprehensive 400-level written exams)** Ph.D. students will take a two-part written exam on 400-level Algebra and Analysis. The exams will be given on consecutive days during the week before classes begin in the fall and in January. New students may take either of the Tier-1 exams in August when they first arrive only with the permission of the Graduate Director. In addition to this possible early attempt, a student is allowed two attempts at each exam prior to the end of the second year of study.

Syllabi, references, and sample problems for these exams are available in the Math Graduate Office.

**Tier 2 (Committee Review)** Each May, a departmental committee will review the record of every student who has either

- a. completed two years in the program without previous review, or
- b. passed the Tier 1 exams on entrance to the program and elects the review at the end of the first year.

The review committee will decide which students may continue toward Ph.D. candidacy. The committee's considerations will include:

- a. Performance on the Tier 1 exams.
- b. Performance in 500-level course work.
- c. A report from the student's academic advisor (see below).
- d. Optional written personal statement by student.e. Student's performance of assistantship duties.

As indicated above, students can accelerate their progress in the program by passing the Tier 1 exams on entrance into the program and electing the Tier 2 review at the end of their first year. The review committee will treat this as favorable for their case. Students who do not get a recommendation to continue will be encouraged to complete the M.A. degree. If they have financial support at the time of review, they will be entitled to at least one additional semester of support in order to do so.

**Tier 3 (oral exam)** After the Tier 2 review, students must arrange and pass a Qualifying Oral Exam before beginning their fourth year. The student will seek the direction of a faculty member as scientific advisor—a "tentative Ph.D. advisor"—for this exam. The faculty member will assign a reading list consisting of texts and research level papers; this material will comprise the major topic of the exam. The student will also propose a minor area, to be approved by the director of graduate studies. If and when the scientific advisor feels the student is ready for the exam, the advisor will arrange for a three-member faculty committee

to administer the exam. These exams are projected to last approximately two hours, and one of the committee members must be qualified to examine the student in the minor area, where the student must demonstrate 500-level mastery. In order to pass the exam, the student must:

- a. Demonstrate a level of mathematical ability and maturity sufficient for successfully undertaking a Ph.D. dissertation (normally in the major area of the exam), and
- b. Identify a faculty member willing to serve as Ph.D. advisor. This will typically, but not necessarily, be the faculty member who organized the exam.

Two aspects of the Graduate Program that directly support this three-tiered system bear mention:

1. A faculty advisor will be assigned to every entering student. The advisor will be expected to follow the student's progress in both course work and instructional duties, and to write a short report for the Tier 2 review committee at the appropriate time.
2. Grades in 500-level courses will be given and evaluated according to the following guidelines:

- A grade of A means that, based on the student's work in that course, the instructor believes the student will succeed in being admitted to Ph.D. candidacy.
- A grade of B means that the student's work in that course is satisfactory, but has reservations (based on that work) about the student's ability to be admitted to candidacy.

All students must maintain at least a B average in their 500-level course work, in accordance with currently published departmental and university guidelines. Tier 1 exams are administered at the end of the week before classes begin in August and January, and will be allotted at least 3 hours (the intention is that time should not be a serious constraint).

### Ph.D. Minor in Mathematics

Doctoral students in other departments may complete a minor in mathematics by satisfying one of the following options: (1) 9 credit hours of mathematics courses at the 400 level or above, or (2) M343-M344 and 6 credit hours of mathematics courses at the 400 level or above.

### Courses

Students are advised to begin their study of a field with 400-level courses, unless their preparation in that field has been very good. M.A.T. students in mathematics, or M.A., M.S., or Ph.D. students in other departments, may receive graduate credit for any 400-level

course. Candidates for the M.A. or Ph.D. in mathematics should note that some 400-level courses do not satisfy certain degree requirements (see footnotes).

In the following list, the middle digit of the course number indicates the field of mathematics: x0y, algebra; x1y, analysis; x2y, topology; x3y, geometry; x4y, applied mathematics; x5y, mechanics; x6y, probability and statistics; x7y, numerical analysis; x8y, history and foundations.

**M403-M404 Introduction to Modern Algebra I-II (3-3 cr.)**

**S403-S404 Honors Course in Modern Algebra I-II (3-3 cr.)**

**T403 Modern Algebra for Secondary Teachers (3 cr.)**<sup>1</sup>

**M405 Number Theory (3 cr.)**<sup>1</sup>

**M409 Linear Transformations (3 cr.)**<sup>2</sup>

**M413-M414 Introduction to Analysis I-II (3-3 cr.)**

**M415 Elementary Complex Variables with Applications (3 cr.)**

**M420 Metric Space Topology (3 cr.)**<sup>1</sup>

**M425 Graph Network Theory and Combinatorial Analysis (3 cr.)**

**M435 Introduction to Differential Geometry (3 cr.)**

**M436 Introduction to Geometries (3 cr.)**

**M441-M442 Introduction to Partial Differential Equations with Applications I-II (3-3 cr.)**

**M447-M448 Mathematical Models and Applications I-II (3-3 cr.)**<sup>1</sup>

**M463 Introduction to Probability Theory I-II (3-3 cr.)**

**M465 Sampling Techniques (3 cr.)**

**M466 Introduction to Mathematical Statistics (3 cr.)**

**M467 Advanced Statistical Techniques I (3 cr.)**

**M468 Advanced Statistical Techniques II (3 cr.)**

**M471-M472 Numerical Analysis I-II (3-3 cr.)**

**M482 Mathematical Logic (3 cr.)**

**M490 Problem Seminar (3 cr.)**

**T490 Topics for Elementary Teachers (3 cr.)**

P, T103 or equivalent. Development and study of a body of mathematics specifically designed for experienced elementary teachers. Examples include probability, statistics, geometry, and algebra. Open only to graduate elementary teachers with consent of the instructor. (Does not count toward the area requirements for the M.A. and Ph.D. degrees in mathematics.)

**M501 Survey of Algebra (3 cr.)** P: M403-M404. Groups with operators; Jordan-Hölder theorem. Sylow theorems. Rings; localization

of rings; Chinese remainder theorem. Modules over principal ideal domains: invariants. Fields: Algebraic closure; separable and inseparable algebraic extensions; Galois theory; finite fields.

**M502 Commutative Algebra (3 cr.)** P: M501.

Field theory: transcendental extensions; separable extensions; derivations. Modules: Noetherian and Artinian modules. Primary modules; primary decomposition; Krull intersection theorem. Commutative rings: height and depth of prime ideals. Integral extensions. Notions of algebraic geometry: algebraic sets; Hilbert Nullstellensatz; local rings.

**M503 Noncommutative Algebra (3 cr.)**

P: M501. Simple and semisimple modules; density theorem; Wedderburn-Artin theorem. Simple algebras: automorphisms; splitting fields; Brauer groups. Representations of finite groups: characters; induced characters; applications.

**M505-M506 Basic Number Theory I-II (3-3 cr.)** P: M403-M404. Congruence, units modulo  $n$ , lattices and abelian groups, quadratic residues, arithmetic functions, diophantine equations, Farey fractions, continued fractions, partition function, the Sieve method, density of subsets of integers, zeta function, the prime number theorem.

**M507-M508 Introduction to Lie Algebras and Lie Groups (3 cr.)** P: M403-M404, and M409 or M501. Nilpotent, solvable, and semisimple Lie algebras, PBW theorem, Killing form, Cartan subalgebras, root systems, Weyl group, classification and representations of complex semisimple Lie algebras, maximal weight modules; correspondence between real Lie algebras and Lie groups, compact Lie groups, complex and real semisimple Lie groups, symmetrical spaces.

**M509 Representations of Finite Groups (3 cr.)** P: M409 or equivalent. Groups, subgroups. Homomorphisms, isomorphisms. Transformation groups. The orthogonal and Euclidean groups  $O(3)$  and  $E(3)$ . Symmetry and discrete subgroups of  $E(3)$ . Crystallographic groups. Group representations. Reducible and irreducible representations. Group characters and character tables. Representations of the symmetric groups. Young tableaux. Symmetry classes of tensors.

<sup>1</sup> These courses do not ordinarily carry credit toward the M.A. or Ph.D. degree in mathematics. They may, however, be taken by M.A.T. students and graduate students in other departments for graduate credit.

<sup>2</sup> Does not count toward the area requirements for the M.A. and Ph.D. degrees in mathematics.

**M511-M512 Real Variables I-II (3-3 cr.)** Sets and functions; cardinal and ordinal numbers; metric spaces; limits and continuity; function spaces and linear functionals; set functions; kinds of measures, integration; absolute continuity; convergence theorems; differentiation and integration.

**M513-M514 Complex Variables I-II (3-3 cr.)** Algebra, topology, and geometry of the complex plane; analytic functions; conformal mapping; Riemann surfaces; Cauchy's theorem and formula; convergence theorems; infinite series and products; Riemann mapping theorem.

**M521-M522 Topology I-II (3-3 cr.)** Point-set topology, including connectedness, compactness, separation properties, products, quotients, metrization, function spaces. Elementary homotopy theory including fundamental group and covering spaces. Introduction to homology theory with applications such as the Brouwer Fixed Point Theorem.

**M529 Introduction to Differential Topology (3 cr.)** P: M303, M413 or equivalent.

Derivatives and tangents; Inverse Function Theorem; immersions and submersions; Sard's Theorem. Manifolds; imbedding manifolds. Applications: intersections and degrees (mod 2); Brouwer Fixed Point Theorem. Orientation of manifolds; Euler characteristic; Hopf Degree Theorem.

**M533-M534 Differential Geometry I-II (3-3 cr.)** Differentiable manifolds, multilinear algebra, and tensor bundles. Vector fields, connections, and general integrability theorems. Riemannian manifolds, curvatures, and topics from the calculus of variations.

**M540-M541 Partial Differential Equations I-II (3-3 cr.)** P: M441-M442 or equivalent. Introduction to distributions, Sobolev spaces, and Fourier transforms; elliptic equations, Hilbert space theory, potential theory.

Maximum principle; parabolic equations and systems, characteristics, representations of solutions, energy methods; applications and examples.

**M544-M545 Ordinary Differential Equations I-II (3-3 cr.)** P: M413-M414 or consent of instructor. Existence, uniqueness, continuous dependence; linear systems, stability theory, Floquet theory; periodic solutions of nonlinear equations; Poincaré-Bendixson theory, direct stability methods; almost periodic motions; spectral theory of nonsingular and singular self-adjoint boundary-value problems; two-dimensional autonomous systems; the saddle-point property; linear systems with isolated singularities.

**M546 Control Theory (3 cr.)** Examples of control problems; optimal control of deterministic systems: linear and nonlinear.

The maximal principle: stochastic control problems.

**M548 Mathematical Methods for Biology (3 cr.)** P: M414, M463. Deterministic growth models. Birth-death processes and stochastic models for growth. Mathematical theories for the spread of epidemics. Quantitative population genetics.

**M553 Cryptography (3 cr.)** P: M301 or M303. Covers encryption and decryption in secure codes. Topics include: cryptosystems and their cryptanalysis, Data Encryption Standard, differential cryptanalysis, Euclidean algorithm, Chinese remainder theorem, RSA

cryptosystem, primality testing, factoring algorithms, ElGamal cryptosystem, discrete log problem, other public key cryptosystems, signature schemes, hash functions, key distribution, and key agreement. Credit not given for both M553 and M453.

**M560 Applied Stochastic Processes (3 cr.)** P: M343, M463, or consent of instructor. Simple random walk as approximation of Brownian motion. Discrete-time Markov chains.

Continuous-time Markov chains; Poisson, compound Poisson, and birth-and-death chains; Kolmogorov's backward and forward equations; steady state. Diffusions as limits of birth-and-death processes. Examples drawn from diverse fields of application.

**M561 Nonparametric Statistics I (3 cr.)** P:

M466. Problems of estimating and testing hypotheses when the functional form of the underlying distribution is unknown. Robust methods. Sign test, rank tests, and confidence procedures based on these tests. Tests based on the permutations of observations. Nonparametric tolerance limits. Large sample properties of the tests.

**M562 Statistical Design of Experiments (3 cr.)** P: M565 or consent of instructor. Latin square, incomplete blocks, and nested designs. Design and analysis of factorial experiments with crossing and nesting of factors, under fixed, balanced case. Blocking and fractionation of experiments with many factors at two levels. Exploration of response surfaces.

**M563-M564 Theory of Probability I-II (3-3 cr.)** P: M463, M512, or consent of instructor. Basic concepts of measure theory and integration, axiomatic foundations of probability theory, distribution functions and characteristic functions, infinitely divisible laws and the central limit problem, modes of convergence of sequences of random variables, ergodic theorems, Markov chains, and stochastic processes.

**M565 Analysis of Variance (3 cr.)** P: M466 and some of matrix algebra. General linear hypothesis. Least squares estimation. Confidence regions. Multiple comparisons.



- Analysis of complete layouts. Effects of departures from underlying assumptions. Analysis of covariance.
- M566-M567 Mathematical Statistics I-II (3-3 cr.)** P: M466, M512; or consent of instructor. Modern statistical inference, including such topics as sufficient statistics with applications to similar tests and point estimates, unbiased and invariant tests, lower bounds for mean square errors of point estimates, interval estimation, linear hypothesis, analysis of variance, sequential analysis, decision functions, and nonparametric inference.
- M568 Time Series Analysis (3 cr.)** P: M466 or consent of instructor. Autocovariance, power spectra, windows, prewhitening, aliasing, variability and covariability, rejection filtering and separation, pilot estimation, cross-spectra, R-th order spectra, prediction, numerical spectrum analysis.
- M569 Statistical Decision Theory (3 cr.)** P: M466 or consent of instructor. Decision-theoretic approach to statistical problems, randomized and nonrandomized decision rules, comparison of decision rules, Bayes decision rules, construction of Bayes decision rules when the number of possible decisions is finite and infinite, and linear programming as a computational rule.
- M571-M572 Analysis of Numerical Methods I-II (3-3 cr.)** P: M441-M442 and M413-M414. Solution of systems of linear equations, elimination and iterative methods, error analyses, eigenvalue problems; numerical methods for integral equations and ordinary differential equations; finite difference, finite element, and Galerkin methods for partial differential equations; stability of methods.
- M583 Set Theory (3 cr.)** P: M482 or M511 or M521. Zermelo-Fraenkel axioms for set theory, well-foundedness and well-orderings, induction and recursion, ordinals and cardinals, axiom of choice, cardinal exponentiation, generalized continuum hypothesis, infinite combinatorics and large cardinals. Martin's axiom, applications to analysis and topology.
- M584 Recursion Theory (3 cr.)** P: one of M482, M511, M521 or CSCI C452; or consent of instructor. Classes of recursive functions, models of computation, Church's thesis, normal forms, recursion theorem, recursively enumerable sets, reduction theory, lattice of r.e. sets, jump operator, priority arguments, degrees of unsolvability and hierarchies.
- M590 Seminar (3 cr.)**
- M595-M596 Seminar in the Teaching of College Mathematics I-II (1-1 cr.)** Methods of teaching undergraduate college mathematics. Does not count toward meeting any of the 500-level requirements toward an M.A. or Ph.D.
- M635-M636 Relativity I-II (3-3 cr.)** Mathematical foundations of the theory of relativity. Lorentz groups, Michelson-Morley experiment, aberration of stars, Fizeau experiment, kinematic effects, relativistic second law of Newton, relativistic kinetic energy, Maxwell equations, ponderomotive equations. Curvature tensor and its algebraic identities, Bianchi's identity, gravitation and geodesics. Schwarzschild solution, relativistic orbits, deflection of light.
- M637 Theory of Gravitation (3 cr.)** P: consent of instructor. The general theory of relativity and its observational basis. Discussion of attempts at a quantum field theory of gravitation. May be taught in alternate years by members of the Department of Physics; see PHYS P637.
- A641 Elliptic Differential Equations (3 cr.)** P: M511, M513, M540; or consent of instructor. Green's identity, fundamental solutions, function theoretic methods, partition of unity, weak and strong derivatives, Sobolev inequalities, embedding theorems, Garding's inequality, Dirichlet problem, existence theory, regularity in the interior, regularity on the boundary, and selected topics.
- A642 Evolution Equations (3 cr.)** P: M511, M513, M540; or consent of instructor. Hyperbolic equations and systems, parabolic equations, Cauchy problems in higher dimension, method of descent, fundamental solutions and their construction, strongly continuous semigroups, analytic semigroups, uniqueness theorems in Hilbert space, fractional powers of operators, analyticity of solutions, and selected topics.
- A643 Integral Equations (3 cr.)** Covers the Volterra-Fredholm theory of integral equations and the abstract Riesz theory of compact operators. Other topics include ideals of compact operators, Fredholm operators, convolution equations and their relationship to Toeplitz operators, Wiener-Hopf factorization.
- M647 Mathematical Physics (3 cr.)** P: M541 or consent of instructor. Applications of the theory of normed linear spaces, distributions, unbounded operators in Hilbert space, and related topics to problems in mathematical physics. May be taught in alternate years by members of the Department of Physics; see PHYS P647.
- M655 Mathematical Foundations of Quantum Mechanics (3 cr.)** P: consent of instructor. Philosophical and mathematical analysis of the concepts: quantum observable, compatibility, quantum state, superposition principle, symmetry. Axiomatic construction of conventional quantum mechanics. May be taught in alternate years by members of the Department of Physics; see PHYS P655.
- M656-M657 Kinetic Theory and Statistical Mechanics I-II (3-3 cr.)** Introduction to the classical theory and modern developments. Historical development of kinetic-statistical theories; rigorous equilibrium statistics; kinetic gas dynamics according to Boltzmann equation; kinetic theories of transport processes in liquids. May be taught in alternate years by members of the Departments of Mathematics and Physics; see PHYS P656-P657.
- M658-M659 Continuum Mechanics I-II (3-3 cr.)** P: consent of instructor. Two-semester course dealing with mathematical foundations of continuum mechanics; content varies yearly; topics selected from elasticity, plasticity, or fluid mechanics and related areas.
- M662 Nonparametric Statistics II (3 cr.)** P: M565, M566, M561, or consent of instructor. Multisample problems. Ranking methods in analysis of variance. Bivariate and multivariate procedures. Efficiency comparisons. Recent developments.
- M663 Weak Convergence of Probability Measures and Applications (3 cr.)** P: M512, M564. Weak convergence of probability measures on metric spaces. Prohorov's theorem and tightness. Brownian motion. Donsker's invariance principle. Weak convergence on  $D[0,1]$ . Convergence of empirical distributions. Functional central limit theorems under dependence.
- M664 Large Sample Theory of Statistics (3 cr.)** P: M563, M566. Asymptotic distributions of sample moments, sample quantiles, and U-statistics; methods of estimation: maximum likelihood estimates, method of moments, L-estimators, Bayes estimators; asymptotic efficiency; likelihood ratio tests, chi-square tests, asymptotic relative efficiencies of tests; weak convergence of the empirical distribution function to a Brownian bridge and application; selection of topics from the following: large deviations, second-order asymptotic efficiency, bootstrap rank tests.
- M671-M672 Numerical Treatment of Differential and Integral Equations I-II (3-3 cr.)** P: M540 or consent of instructor. Finite difference methods of ordinary and partial differential equations; relaxation methods; discrete kernel functions; methods of Ritz, Galerkin, and Trefftz approximate methods for integral equations.
- M680 Logic and Decidability (3 cr.)** P: M584 and M404; or consent of instructor. Effective syntax and semantics of propositional and first-order logics; theory of decidability and some decidable theories; theory of undecidability and implicit definability, Gödel's theorems on incompleteness and the unprovability of consistency.
- M635-M636 Relativity I-II (3-3 cr.)** Mathematical foundations of the theory of relativity. Lorentz groups, Michelson-Morley experiment, aberration of stars, Fizeau experiment, kinematic effects, relativistic second law of Newton, relativistic kinetic energy, Maxwell equations, ponderomotive equations. Curvature tensor and its algebraic identities, Bianchi's identity, gravitation and geodesics. Schwarzschild solution, relativistic orbits, deflection of light.
- M637 Theory of Gravitation (3 cr.)** P: consent of instructor. The general theory of relativity and its observational basis. Discussion of attempts at a quantum field theory of gravitation. May be taught in alternate years by members of the Department of Physics; see PHYS P637.
- A641 Elliptic Differential Equations (3 cr.)** P: M511, M513, M540; or consent of instructor. Green's identity, fundamental solutions, function theoretic methods, partition of unity, weak and strong derivatives, Sobolev inequalities, embedding theorems, Garding's inequality, Dirichlet problem, existence theory, regularity in the interior, regularity on the boundary, and selected topics.
- A642 Evolution Equations (3 cr.)** P: M511, M513, M540; or consent of instructor. Hyperbolic equations and systems, parabolic equations, Cauchy problems in higher dimension, method of descent, fundamental solutions and their construction, strongly continuous semigroups, analytic semigroups, uniqueness theorems in Hilbert space, fractional powers of operators, analyticity of solutions, and selected topics.
- A643 Integral Equations (3 cr.)** Covers the Volterra-Fredholm theory of integral equations and the abstract Riesz theory of compact operators. Other topics include ideals of compact operators, Fredholm operators, convolution equations and their relationship to Toeplitz operators, Wiener-Hopf factorization.
- M647 Mathematical Physics (3 cr.)** P: M541 or consent of instructor. Applications of the theory of normed linear spaces, distributions, unbounded operators in Hilbert space, and related topics to problems in mathematical physics. May be taught in alternate years by members of the Department of Physics; see PHYS P647.
- M655 Mathematical Foundations of Quantum Mechanics (3 cr.)** P: consent of instructor. Philosophical and mathematical analysis of the concepts: quantum observable, compatibility, quantum state, superposition principle, symmetry. Axiomatic construction of conventional quantum mechanics. May be taught in alternate years by members of the Department of Physics; see PHYS P655.
- M656-M657 Kinetic Theory and Statistical Mechanics I-II (3-3 cr.)** Introduction to the classical theory and modern developments. Historical development of kinetic-statistical theories; rigorous equilibrium statistics; kinetic gas dynamics according to Boltzmann equation; kinetic theories of transport processes in liquids. May be taught in alternate years by members of the Departments of Mathematics and Physics; see PHYS P656-P657.
- M658-M659 Continuum Mechanics I-II (3-3 cr.)** P: consent of instructor. Two-semester course dealing with mathematical foundations of continuum mechanics; content varies yearly; topics selected from elasticity, plasticity, or fluid mechanics and related areas.
- M662 Nonparametric Statistics II (3 cr.)** P: M565, M566, M561, or consent of instructor. Multisample problems. Ranking methods in analysis of variance. Bivariate and multivariate procedures. Efficiency comparisons. Recent developments.
- M663 Weak Convergence of Probability Measures and Applications (3 cr.)** P: M512, M564. Weak convergence of probability measures on metric spaces. Prohorov's theorem and tightness. Brownian motion. Donsker's invariance principle. Weak convergence on  $D[0,1]$ . Convergence of empirical distributions. Functional central limit theorems under dependence.
- M664 Large Sample Theory of Statistics (3 cr.)** P: M563, M566. Asymptotic distributions of sample moments, sample quantiles, and U-statistics; methods of estimation: maximum likelihood estimates, method of moments, L-estimators, Bayes estimators; asymptotic efficiency; likelihood ratio tests, chi-square tests, asymptotic relative efficiencies of tests; weak convergence of the empirical distribution function to a Brownian bridge and application; selection of topics from the following: large deviations, second-order asymptotic efficiency, bootstrap rank tests.
- M671-M672 Numerical Treatment of Differential and Integral Equations I-II (3-3 cr.)** P: M540 or consent of instructor. Finite difference methods of ordinary and partial differential equations; relaxation methods; discrete kernel functions; methods of Ritz, Galerkin, and Trefftz approximate methods for integral equations.
- M680 Logic and Decidability (3 cr.)** P: M584 and M404; or consent of instructor. Effective syntax and semantics of propositional and first-order logics; theory of decidability and some decidable theories; theory of undecidability and implicit definability, Gödel's theorems on incompleteness and the unprovability of consistency.
- M599 Colloquium (1 cr.)** Attendance at Department of Mathematics colloquia required. May be repeated. May not be used in fulfillment of the 36 credit hours of 500-, 600-, or 700-level course work required for the Ph.D. Also not applicable to 30 credit hours for master's degree.
- M601-M602 Algebraic Number Theory I-II (3-3 cr.)** P: M501-M502. Valuations, fields of algebraic functions, cohomology of groups, local and global class field theory.
- M607-M608 Group Representations I-II (3-3 cr.)** P: consent of instructor. Review of abstract group theory. Representation theory of finite and infinite compact groups. Detailed study of selected classical groups. Lie groups, covering groups, Lie algebras, invariant measure and induced representations. May be taught in alternate years by members of the Departments of Mathematics and Physics; see PHYS P607.
- M611-M612 Functional Analysis I-II (3-3 cr.)** Fundamentals of the theory of vector spaces; Banach spaces; Hilbert space. Linear functionals and operators in such spaces, spectral resolution of operators. Functional equations: applications to fields of analysis, such as integration and measure, integral equations, ordinary and partial differential equations, ergodic theory. Nonlinear problems. Schauder-Leray fixed-point theorem and its applications to fundamental existence theorems of analysis.
- M621-M622 Algebraic Topology I-II (3-3 cr.)** P: M522. Basic concepts of homological algebra, universal coefficient theorems for homology and cohomology. Künneth formula, duality in manifolds. Homotopy theory including Hurewicz and Whitehead theorems, classifying spaces, Postnikov systems, spectral sequences, homotopy groups of spheres. Offered every other year, alternating with M623-M624.
- M623-M624 Geometric Topology I-II (3-3 cr.)** P: M522. Topics in geometric topology chosen from K-theory, simple homotopy theory, topology of manifolds, fiber bundles, knot theory, and related areas. May be taken more than once. Offered every other year, alternating with M621-M622.
- M630 Algebraic Geometry (3 cr.)** A study in the plane, based on homogeneous point and line coordinates; a study of algebraic curves and envelopes, including such topics as invariants, singularities, reducibility, genus, polar properties, Pascal and Brianchon theorems, and Jacobian, Hessian, and Plücker formulas.
- M633-M634 Algebraic Varieties I-II (3-3 cr.)** Topological and algebraic properties of algebraic varieties.



**M682 Model Theory** (3 cr.) P. M583, M680, and M502; or consent of instructor. Elementary equivalence, completeness and model-completeness, interpolation, preservation and characterization theorems, elementary classes, types, saturated structures, introduction to categoricity and stability.

**M701-M702 Selected Topics in Algebra I-II** (3-3 cr.)

**M711-M712 Selected Topics in Analysis I-II** (3-3 cr.)

**M721-M722 Selected Topics in Topology I-II** (3-3 cr.)

**M731-M732 Selected Topics in Differential Geometry I-II** (3-3 cr.)

**M733-M734 Selected Topics in Algebraic Geometry I-II** (3-3 cr.)

**M741-M742 Selected Topics in Applied Mathematics I-II** (3-3 cr.)

**M743-M744 Selected Topics in Mathematical Physics I-II** (3-3 cr.) Content varies from year to year. May be taught in alternate years by members of the Department of Physics; see PHYS F743.

**M751-M752 Selected Topics in Mechanics I-II** (3-3 cr.)

**M761-M762 Selected Topics in Statistics and Probability I-II** (3-3 cr.)

**M771-M772 Selected Topics in Numerical Analysis I-II** (3-3 cr.)

**M781-M782 Selected Topics in Mathematical Logic** (3-3 cr.)

**M800 Mathematical Reading and Research** (cr. arr.)\* Intended primarily for graduate students who have passed the qualifying examination.

## Medical Biophysics

School of Medicine  
Indianapolis

**Interdepartmental Program Director**  
Professor Rodney Rhoades

### Graduate Faculty

**Professors** William Bosron, Richard Haak, Jean Hamilton-Steinrauf, Larry Jones, Marvin Kemple, Stephen Kempson, Kenneth Lipkowitz, Rodney Rhoades, B. D. Nageswara Rao, Peter Roach, William Stillwell

**Associate Professors** C. Michael Hart,\* Thomas Hurley, Frederick Kleinhans, Eric Long,\* Barry Muhoberac, G. Keith Mulholland,\* Carolyn Patterson,\* Stephen Wassall, Charles Wilde, James Williams

**Assistant Professor** David Timm\*

**Graduate Advisor** Professor Thomas Hurley, Medical Science Building 4019, (317) 278-2008

**Degrees Offered** Master of Science in Medical Biophysics and Doctor of Philosophy

An interdepartmental committee is responsible for the administration of the medical biophysics degree programs. The committee is composed of representatives from the Departments of Biochemistry and Molecular Biology, Pharmacology and Toxicology, and Physiology and Biophysics from the Indiana University School of Medicine and from the Departments of Biology and Chemistry from the Purdue University School of Science at Indianapolis. Graduate training in the program is oriented primarily toward research at the molecular and cellular level with focus points at the boundaries of the traditional disciplines of physics, chemistry, and biology. Research programs include, but are not restricted to, membrane biophysics, structure-function relations in cells and macromolecules, muscle biophysics, photobiology, and bioenergetics. Detailed descriptions of faculty research interests are available.

### Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree in biochemistry, biology, biophysics, chemistry, mathematics, physics, or an equivalent major. Graduate Record Examination scores on both the General Test and a Subject Test are required as a part of the application.

### Master of Science Degree

**Course Requirements** At least 30 credit hours, of which 20 credit hours must be in biophysics, including 7 credit hours in research; remaining credit hours in related courses.

**Thesis** Optional.

**Final Examination** Written or oral or both.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, with a minimum of 36 credit hours in course work (including those for the minor). Required core courses include J611 and J612. B807 Biochemistry or equivalent, one course in quantum mechanics (chosen from Purdue School of Science's Introduction to P550 Quantum Mechanics, P660 Quantum Mechanics I, and C672 Quantum Chemistry), one course in cell infrastructure (chosen from F650, G865, F705, and B807). Additional elective courses totaling at least 9 credit hours

are determined by the advisory committee in discussion with the student and selected from a list compiled by the faculty. (See list of courses below.)

**Minor** A minimum of 12 credit hours in course work in a departmental minor or an interdepartmental minor in physical science or in cellular and molecular biology.

**Qualifying Examination** Written and oral.

**Research Proposal** A dissertation research proposal is required.

**Final Examination** Oral defense of the dissertation.

**Other Provisions** Three research rotations, each a brief project in a preceptor's laboratory, before an advisor is chosen. Presentation of three seminars during graduate study.

### Courses

**A610 Research in Biophysics** (cr. arr.)

**A611 Seminar in Biophysics** (1 cr.)

**A612 Special Topics in Biophysics** (cr. arr.)

**A620 X-Ray Crystallography** (3 cr.)

**B807 Enzyme Chemistry** (3 cr.)

**B808 Physical Biochemistry** (3 cr.)

**B841 Methods of Protein Chemistry** (3 cr.)

**F616 Molecular Pharmacology** (3 cr.)

**F650 Membrane Biophysics** (3 cr.)

**F705 Molecular and Cellular Physiology** (3 cr.)

**F710 Physiology of Membranes** (2 cr.)

**F724 Physiology of the Nervous System** (3 cr.)

**F725 Physiology of Muscle** (2 cr.)

**F835 Molecular Mechanism of Drug Action** (3 cr.)

**G651 Introduction to Biostatistics I** (3 cr.)

**G652 Introduction to Biostatistics II** (3 cr.)

**G865 Fundamental Molecular Biology** (3 cr.)

**G890 Methods in Molecular Biology and Pathology** (3 cr.)

**J611 Introduction to Biophysics I** (3 cr.)

**J612 Introduction to Biophysics II** (3 cr.)

**J805 Immunology** (3 cr.)

**Q612 Molecular and Biochemical Genetics** (3 cr.)

**Relevant Courses in the Purdue School of Science at Indianapolis**

**BIOL 569 Cellular Neurobiology** (2 cr.)

**BIOL 570 Biological Membranes** (3 cr.)

**BIOL 641 Microbial Genetics** (2 cr.)

**CHEM 575 Intermediate Physical Chemistry** (3 cr.)

**CHEM 636 Biochemical Mechanisms** (3 cr.)

**CHEM 657 Reaction Mechanisms** (3 cr.)

**CHEM 672 Quantum Chemistry** (3 cr.)  
**CHEM 675 Chemical Kinetics** (3 cr.)  
**CHEM 682 Statistical Thermodynamics** (3 cr.)  
**CHEM 696 Special Topics in Chemistry** (1-3 cr.)

**MATH 526 Principles of Mathematical Modeling** (3 cr.)

**MATH 532 Elements of Stochastic Processes** (3 cr.)

**PHYS 550 Introduction to Quantum Mechanics** (3 cr.)

**PHYS 556 Introductory Nuclear Physics** (3 cr.)  
**PHYS 600 Methods of Theoretical Physics** (3 cr.)

**PHYS 630 Advanced Theory of Electricity and Magnetism** (3 cr.)  
**PHYS 660 Quantum Mechanics I** (3 cr.)

## Medical and Molecular Genetics

School of Medicine  
Indianapolis

**Chairperson** Associate Professor Cail H. Vance (acting)

**Departmental e-mail:** katwilhe@iupui.edu

**Departmental URL:** <http://medgen.iupui.edu/>

### Graduate Faculty

**Distinguished Professors** P. Michael Conneally (Neurology), Bernardino Ghetti (Pathology and Laboratory Medicine, Psychiatry, Neurology)

**Professors** David Bixler (Emeritus, Oral Facial Genetics), Ira Brandt (Emeritus, Pediatrics), Joe Christian (Emeritus), Mary Dinauer (Pediatrics), Howard Edenberg (Biochemistry and Molecular Biology), Alan Golichowski\* (Medicine), James Hartsfield, Jr. (Oral Facial Genetics), M. E. Hodess (Medicine, Pathology and Laboratory Medicine), Thomas Kaufman (Biology), John Nurnberger, Jr. (Psychiatry), Catherine Palmer (Emeritus), Terry Reed, Richard Rose (Emeritus, Psychology), Herman Saatkamp, Jr. (Philosophy), William Schneider (Liberal Arts), David D. Weaver, David A. Williams (Pediatrics)

**Associate Professors** Kenneth Cornetta\* (Medicine), Tatiana M. Foroud, Bryan Hainline\* (Pediatrics), Robert Hromas (Medicine), Debomoy Lahiri (Neurobiology), Gail Vance

**Assistant Professor** Yan Chen\*

**Clinical Associate Professor** Kimberly Quaid (Psychiatry)

**Clinical Assistant Professors** Wilfredo Torres-Martinez,\* Virginia Thurston,\* Frederick Unverzagt\* (Psychiatry)

**Assistant Scientist** Stephen Dlouhy

**Graduate Advisor** Professor Terry Reed, Medical Research and Library Building 130, (317) 274-2241

**Degrees Offered** Master of Science in Medical Genetics and Doctor of Philosophy

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree or its equivalent, including two years of chemistry, mathematics through calculus, two years of biology, and one course in principles of genetics. Promising students deficient in one or more areas may be accepted if it appears to the admissions committee that deficiencies can be removed during graduate study. Results of the Graduate Record Examination General Test must be available before applicants can be considered for admission.

## Master of Science Degree

**Course Requirements** A minimum of 30 credit hours of approved courses, including no more than 7 credit hours of research. At least 20 credit hours must be taken in medical genetics or approved equivalents, including at least four of the following five areas with grades of B or better: basic human genetics, clinical genetics, cytogenetics, molecular and biochemical genetics, and population genetics.

**Thesis** Optional. With approval of the department, a refereed publication or an additional 6 credit hours of nonresearch course work beyond the required 30 credit hours may be substituted for the thesis. For students who plan ultimately to take the certification examination of the American Board of Genetic Counseling, a more structured plan of study fulfilling the required 30 or 36 credit hours is available.

**Final Examination** The student must pass a comprehensive oral or written examination as determined by the student's committee. Under exceptional circumstances, the student may petition the committee to be permitted to take the final examination one additional time.

**Program Termination** Academic or research deficiency will result in termination of the student's enrollment in the program.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours plus dissertation with 37 credit hours of

nonresearch courses in medical genetics, including G504 or equivalent. Appropriate courses in the Departments of Anatomy, Anthropology, Biochemistry, Mathematics, Microbiology, Pharmacology, and Biology on the Bloomington and Indianapolis campuses may be accepted for credit toward the major with prior approval of the student's advisory committee. Up to 30 credit hours of nonclinical medical or dental courses may apply toward the Ph.D. degree.

**Minor** Must be taken in a field related to the major, e.g., anthropology, applied statistics, biochemistry, biology, cellular and molecular biology, immunology, life science, microbiology, neurobiology, or pharmacology.

**Qualifying Examination** Comprehensive written and oral examination. Examination over the minor field at the discretion of the minor field department.

**Research Proposal** Written research proposal, presented and defended orally, required for admission to candidacy.

**Final Examination** Oral defense of dissertation.

**Program Termination** Research or academic deficiency, including two failures of the qualifying examination, will result in termination of the student's enrollment in the program.

## Courses

The graduate courses listed below are not all offered in any given academic year. Inquiries on the availability and suitability of any particular course should be directed to the graduate advisor. In addition to those areas indicated by specific course offerings, extensive opportunities for interdepartmental research are also available.

**Q580 Basic Human Genetics (3 cr.)** P: general genetics and consent of the instructor. An introduction to the genetics of human traits and heritable diseases. Emphasis will be on general aspects of eukaryote genetics as it applies to humans, but some prokaryote genetics will be included for comparison.

**Q606 Foundations in Genetic Counseling (3 cr.)** Introduction to the principles and practice of genetic counseling. Topics include: genetic counseling techniques, prenatal diagnosis counseling, pediatric/adult counseling, and support services.

**Q610 Clinical Genetics Practicum (3 cr.)** P: consent of the instructor. Methods for obtaining medical and family histories, approaches to evaluation of individuals and families with genetic disorders, and techniques

for providing genetic counseling. May be repeated once for credit.

**Q611 Genetics Analysis Laboratory (1-2 cr.)** P: consent of the instructor. Computer storage and retrieval of family data. Use of programs for genetic analysis. Includes analysis of twins, families of twins, and genetic linkage and segregation.

**Q612 Molecular and Biochemical Genetics (3 cr.)** Molecular and biochemical aspects of gene function in various genetic disorders.

Emphasis on the DNA lesion when known, on aberrations in the metabolic pathways, and on structural defects. Discussion of hemoglobinopathies, phenylketonuria, storage diseases, and other conditions.

**Q613 Molecular and Biochemical Genetics Laboratory (2 cr.)** The student will learn to perform many of the molecular and biochemical techniques for the determination of genetic markers that can be used for diagnosis, genotyping, and forensic applications.

**Q614 Psychological Aspects of Genetic Counseling (3 cr.)** P: one course in introductory or abnormal psychology. Introduction to theory and research in the field of genetic counseling. Topics include: risk assessment, attitude assessment, and decision-making. The social, ethical, and legal aspects of the delivery of genetic services are also covered.

**Q615 Prenatal Diagnosis Practicum (3 cr.)** Training in prenatal genetic counseling. Counseling referrals may include advanced

maternal age, abnormal prenatal screening, abnormal ultrasound, or other pregnancy complications.

**Q620 Human Cytogenetics (3 cr.)** P: consent of the instructor, basic genetics. Study of chromosome structure and replication, X-inactivation, meiosis, numerical and structural rearrangements in humans, and cytogenetics of malignancies.

**Q621 Human Cytogenetics Laboratory (3 cr.)** P: basic genetics, Q620, and consent of instructor. Current techniques in human cytogenetics. May be taken concurrently with Q620.

**Q622 Cytogenetics of Malignancies (2-3 cr.)** P: consent of instructor. This course will examine the biologic implications of cytogenetic abnormalities found in malignancies. Aberrant gene function as a result of cytogenetic abnormalities will be stressed.

**Q630 Population Genetics (3 cr.)** P: basic genetics. Basic probability and Bayes theorem, as applied to genetic counseling. Effects of mutation and selection on the survival of alleles in a population; consequences of consanguinity and inbreeding; methods of

analysis including segregation and linkage including nonparametric methods; quantitative genetics such as twin studies and heritability.

**Q631 Quantitative Genetics (2 cr.)** P: G651 and G652 or equivalent. Inheritance of human quantitative traits, partitioning of phenotypic variation, estimation of genetic variance and heritability, methods of analyzing resemblance among relatives including nuclear families, twins, and half-siblings.

**Q640 Special Topics in Human Genetics (1-3 cr.; 9 cr. max.)** A continuing nonrepeating series of lectures on newer advances in human genetics; discussions in specific areas of human genetics not currently available to all students. Additional credits may be obtained by study of a specific area under individual tutelage.

**Q642 Dermatoglyphics (2 cr.)** P: consent of instructor. Formation, development, classification and variation of finger, palm, and footprint patterns (dermatoglyphics) in humans; interpretation of results of quantitative and statistical techniques utilized in the study of the inheritance of dermatoglyphic traits, variation in twins, and applications in clinical genetics.

**Q660 Medical Genetics Seminar (2 cr.)** P: basic genetics. Topics chosen from aspects of medical genetics not extensively treated elsewhere. Various phases of research in medicine from a genetic and clinical point of view. Students may receive credit during each semester of residence on the Medical Center campus.

**Q730 Methods in Human Genetics (3 cr.)** P: basic genetics, differential calculus, and Q630 or equivalent. Sampling methods employed in study of human genetics; methods for analysis of segregation, linkage, mutation, and selection with family data collected under various forms of ascertainment.

**Q800 Medical Genetics Research (cr. arr.)\***

## Graduate

**G504 Introduction to Research Ethics (2 cr.)** Introduction to the basic concepts of research ethics. The course will cover historical development of concern with ethics in science as well as practical information needed by students working in the science today. Format will be lecture and discussion.

**G651-G652 Introduction to Biostatistics I-II (3-3 cr.)** Data description, sampling variation and distributions, interval estimation, and tests of hypotheses involving binomial, normal, t, F, and X<sup>2</sup> distribution; one-way analysis of variance, bivariate regression and correlation, higher order experimental designs, and associated analysis of variance; use of statistical analysis programs on computer.

## Medical Neurobiology

School of Medicine  
Indianapolis

**Program Director** Professor Joseph Hingtgen

### Graduate Faculty

**Distinguished Professors** M. H. Aprison (Emeritus, Biochemistry and Molecular Biology), P. Michael Conneally (Medical Genetics, Neurology), Bernardino Ghetti (Medical and Molecular Genetics, Neurobiology, Pathology, Psychiatry), John Nurnberger Sr. (Emeritus, Psychiatry)

**Raymond E. Houk Professor of Psychiatry**  
Christopher McDougale

**Joyce and Iver Small Professor of Psychiatry, Neurobiology and Medical Genetics** John Nurnberger Jr. (Neurobiology, Psychiatry)

**Albert Eugene Stern Professor of Clinical Psychiatry** Hugh Hendrie

**Paul Stark Professor of Pharmacology**  
Michael Vasko

**Professors** D. C. Bauer (Emeritus, Microbiology and Immunology), Marian DeMyer (Emerita, Psychiatry), Joseph DiMiccio (Pharmacology and Toxicology), Janice Froehlich (Medicine, Physiology and Biophysics), Joseph Hingtgen (Clinical Psychology, Neurobiology in Psychiatry), Marion Hodcs (Medical Genetics), William Lawson (Psychiatry), William McBride (Biochemistry and Molecular Biology, Neurobiology in Psychiatry), Victor Milstein\* (Psychiatry), James Murphy (Neurobiology, Psychology), Sidney Ochs (Emeritus, Physiology and Biophysics), Richard Peterson (Anatomy), Michael Pritz (Neurosurgery), Judith Richter (Neurobiology in Psychiatry, Pharmacology and Toxicology), Jay Simon (Biochemistry and Molecular Biology, Neurobiology in Psychiatry), Feng Zhou (Anatomy)

**Associate Professors** Michael Kubek (Anatomy, Neurobiology), Debmoy Lahiri (Neurobiology), Aimee Mayeda\* (Psychiatry), Grant Nicol (Pharmacology and Toxicology), Sean O'Connor (Neurobiology), Anantha Shekhar (Neurobiology, Psychiatry, Pharmacology and Toxicology), David Suzuki (Ophthalmology, Physiology and Biophysics), Lazaros Triarhou\* (Pathology and Laboratory Medicine), Donald Wong (Anatomy)

**Assistant Professors** Edward Daly\* (Neurology), Dena Davidson\* (Psychiatry), Kathleen Hall\* (Psychiatry), David Kareken\* (Psychology), David McKinzie\* (Psychiatry),

45 credit hours must be in course work, the remainder in research.

**Minor** Twelve (12) credit hours must be taken in one of the basic sciences associated with the Medical Neurobiology Program: anatomy, biochemistry, biology, medical genetics, microbiology and immunology, pathology, pharmacology, physiology and biophysics, and psychology.

**Qualifying Examination** Written and oral, followed by presentation of a research proposal.

**Final Examination** Oral defense of dissertation.

Core courses include N800, N801, D527, B500, B855, F809, F724. Additional appropriate courses in the Departments of Anatomy, Biochemistry, Biology, Medical Genetics, Microbiology and Immunology, Pathology, Pharmacology and Toxicology, Physiology and Biophysics, and Psychology will be accepted for credit toward the major with prior approval of the student's advisor.

### Courses

**N800 Research in Medical Neurobiology (cr. arr.)** P. consent of instructor with whom research is being done. Supervised literature and laboratory research in selected area(s) of medical neurobiology.

**N801 Seminar-Topics in Medical Neurobiology (1 cr.)** Required of all graduate students in program. Recent topics in medical neurobiology covered by literature and research reports and discussions by faculty, graduate students, and invited guest lecturers.

### Anatomy

**D527 Neuroanatomy (3 cr.)**

**D863 Peripheral Nervous System (2-3 cr.)**  
**D875 Topics in Advanced Neuroanatomy (2-5 cr.)**

**D876 Neurotransmitter and Neuroendocrine Cytology and Anatomy (3 cr.)**

### Biochemistry

**B500 Introductory Biochemistry (3 cr.)**

**B855 Neurochemistry (3 cr.)**

**B856 Advanced Topics in Neurochemistry (2-5 cr.)**

### Graduate

**G865 Fundamental Molecular Biology (3 cr.)** P. B800 or equivalent. Principles of molecular structure, function, and biosynthesis; core information regarding prokaryotic and eukaryotic gene continuity and metabolic coordination; introduction to multicellular systems and problems.

**Pharmacology and Toxicology**  
**F602 Pharmacology: Lecture (5 cr.)**  
**F809 Neuropharmacology (3 cr.)**  
**F810 Pharmacology of Autonomic Cardiovascular Control: Central and Peripheral Mechanisms (3 cr.)**

**Physiology and Biophysics**

**F613 Mammalian Physiology Lecture (5 cr.)**  
**F724 Physiology of the Nervous System (3 cr.)**

## Medical Sciences

Bloomington

**Assistant Dean** Professor Talmage Bosin

### Graduate Faculty

**Professors** Talmage Bosin (Pharmacology), Bruce Martin (Physiology), Anthony Mescher (Anatomy and Cell Biology), Alfred Strickholm (Emeritus, Physiology), Roderick Suthers (Physiology), John Watkins III (Pharmacology)

**Adjunct Professors** Robert De Voe (Emeritus), John Richardson (Biochemistry and Molecular Biology, Chemistry), Gary Hafner (Anatomy, Optometry)

**Associate Professors** David Daleke (Biochemistry and Molecular Biology), Edward Goh (Pharmacology), Joseph Near (Pharmacology), Anton Neff (Anatomy and Cell Biology), Henry Prange (Physiology), Dolores Schroeder (Anatomy and Cell Biology)

**Adjunct Associate Professors** Ann Carmichael (History, History and Philosophy of Science), Sally Hegeman\* (Pharmacology, Optometry)

**Assistant Professors** Whitney Reilly\* (Physiology and Biophysics), Valerie O'Loughlin\* (Anatomy and Cell Biology)

**Adjunct Assistant Professor** Dennis Daniels\* (Applied Health Science)

Each of the four basic medical sciences disciplines—anatomy, pathology, pharmacology, and physiology—administered by the Medical Sciences program of the School of Medicine on the Bloomington campus offers work leading to the M.A. or M.S. and Ph.D. degrees.

The program also accepts medical students who wish to take advantage of small classes. The first two years of basic medical instruction include gross anatomy, microscopic anatomy, neuroanatomy, biochemistry, microbiology, physiology, emergency medicine, immunology, pharmacology, pathology, physical diagnosis, and introduction to medicine (the latter two taught at Bloomington Hospital). The

James Trofatter\* (Neurobiology), Frederick Unverzagt\* (Psychology)

**Associate Scientist** Sandra Morzozati\* (Neurobiology)

**Clinical Professor** John Bancroft (Psychiatry)

**Adjunct Professor** Shirley Bayer (Biology)

**Clinical Associate Professor** Kimberly Quaid (Medical and Molecular Genetics, Psychiatry)

**Adjunct Assistant Professor** Debra Grega\* (Neurobiology)

**Affiliate Faculty** Donald Gehlert

(Neurobiology), Binhui Ni (Neurobiology), Eric Nisenbaum (Psychiatry), Lee Phebus (Neurobiology), Kurt Rasmussen (Neurobiology), Harlan Shannnon (Neurobiology), David Wong (Biochemistry and Molecular Biology, Neurobiology)

**Graduate Advisor** Professor Joseph Hingtgen, Institute of Psychiatric Research 418, (317) 274-7397

**Degrees Offered** Master of Science and Doctor of Philosophy

### Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Bachelor's degree in chemistry, biological sciences, physics, mathematics, engineering, or psychology, which includes courses in general chemistry (8 credit hours), organic chemistry (8 credit hours), physics (4 credit hours), biological sciences (8 credit hours), and mathematics through calculus. Promising students may be accepted even though certain undergraduate prerequisites may be lacking, but they must remove deficiencies during the first year of graduate study. The Graduate Record Examination General Test results must be available before applicants will be considered for admission.

### Master of Science Degree

**Course Requirements** A total of 30 credit hours, including at least 17 credit hours of approved courses and 3 credit hours of research.

**Thesis** Required.

**Final Examination** Comprehensive oral examination.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation. A minimum of

curriculum is drawn from the many courses offered jointly through the School of Medicine and the University Graduate School. At a time when many medical schools are reducing their basic science offerings to medical students, the program at Bloomington should be of significant interest to those who seek a more rigorous training in the physical and biological sciences.

Complete information for the Doctor of Medicine program is provided in the School of Medicine Bulletin.

## ANATOMY AND CELL BIOLOGY 1

**Graduate Advisor** Professor Anthony Mescher, e-mail: [mescher@indiana.edu](mailto:mescher@indiana.edu), (812) 855-4693

**Degrees Offered** Master of Arts and Doctor of Philosophy

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Applicants should have a bachelor's degree in the sciences or a substantial knowledge base in these disciplines. The Graduate Record Examination General Test is required. The TOEFL is required of international applicants.

## Master of Arts Degree

**Course Requirements** A total of 30 credit hours, of which 20 credit hours must be in anatomy and cell biology or related courses other than research. A850 seminar must be taken each semester.

**Thesis** Required.

**Final Examination** Oral defense of thesis.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including courses in anatomy and cell biology, a basic course in both physiology and biochemistry, and dissertation. A minimum of 40 credit hours must be in courses other than research. A850 must be taken each semester.

**Minors** Minors may be in a variety of disciplines subject to approval of the student's advisory committee.

**Qualifying Examination** Written and oral, designed to test student's knowledge in anatomical sciences. Examination in the minor area may be required.

<sup>1</sup>See also the Department of Anatomy, Indianapolis.

<sup>2</sup>Consent of the director of the Medical Sciences Program also required.

**Final Examination** Oral defense of dissertation.

**Other Provision** One year of supervised teaching experience required.

## Courses

**A460 Anatomy of the Ear and Vocal Organs** (3 cr.)

**A464 Human Tissue Biology** (4 cr.)

**A505 Human Development** (2 cr.) P: Z315 or equivalent and consent of instructor. Normal and abnormal human development. General considerations of development from embryonic through early neonatal period.

Emphasis on understanding basis for morphological conditions found in the adult.

**A512 Introduction to Research in Anatomy** (1 cr.) Lectures and demonstrations in current research interests of faculty. Required of all new graduate students.

**A513 Introduction to Research Techniques** (1 cr.) P: A512. Individual work on a research problem. Required of all new graduate students.

**A530 Special Topics (cr. arr.)\*** P: consent of instructor. Work in advanced areas in anatomy.

**A550-A551 Gross Human Anatomy I-II** (4-4 cr.) P: consent of instructor. <sup>2</sup>Detailed study of the gross anatomy of the human, including a complete dissection. I. Systemic anatomy, anatomy of the thorax, abdomen, pelvis, and perineum (Sem. I). II. Anatomy of the head and neck, extremities (Sem. II).

**A560 Human Microscopic Anatomy** (4 cr.) P: consent of instructor. <sup>1</sup>Detailed study of the microscopic anatomy of the human. Emphasis on structure-function relationships and laboratory identification of tissues and organs. Material presented at optical and electron microscopic level. Sem. I.

**A566 Human Neuroanatomy** (3 cr.) P: consent of instructor. <sup>3</sup>Basic human central nervous system will be covered. Interrelationships between structure and function in the nervous system. Thorough foundation for further study in neurophysiology, neuroanatomy, or neurology. Sem. II.

**A601-A602-A603 Advanced Gross Anatomy I-II-III** (4-4-4 cr.) P: A550-A551, consent of instructor. I. Structure of the upper and lower extremity. II. Thorax, abdomen, and pelvis. III. Head, neck, and gross brain. All include detailed dissection, lectures, and discussion on current literature to determine relation of structure to function.

**A610 Comparative Neuroanatomy** (2 cr.)

P: consent of instructor; graduate standing; one neuroscience course or equivalent. A comparison of the central nervous system of mammalian and nonmammalian vertebrates,

including a laboratory study of representative specimens.

**A664 Selected Topics in Advanced Microscopic Anatomy** (3 cr.) P: A560 or

consent of instructor; graduate standing. Advanced instruction in the microscopic structure of selected animal cell systems, involving discussion and review of current literature and research dealing with these systems. Topics will change with each offering.

**A800 Research in Anatomy (cr. arr.)\***

**A850 Topical Seminar in Anatomy** (1 cr.) Topics of current interest discussed in seminar format.

**BIOL L500 Independent Study (cr. arr.)**

P: must have written consent of faculty member supervising research.

**M555 Medical Neuroscience** (5 cr.) An interdisciplinary study of the morphological, functional, and clinical aspects of the human nervous system.

## PATHOLOGY 1

**Academic Advisor** Associate Professor Mark Braun, e-mail: [braum@indiana.edu](mailto:braum@indiana.edu), (812) 855-8118

**Degrees Offered** Master of Science and Doctor of Philosophy

Courses are offered on the Bloomington campus as part of the combined degree program in medicine and on the Indianapolis campus as part of the medical-graduate curriculum. A student admitted to one program is also eligible for instruction in the other.

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** The degree Doctor of Medicine or good standing as a medical student. Nonmajors in pathology admitted by special arrangement with the faculty.

## Master of Science Degree

**Course Requirements** A total of 30 credit hours, including 20 credit hours in pathology. **Thesis** Required.

**Foreign Language** Reading knowledge of one foreign language desirable.

**Final Examination** Oral defense of thesis.

<sup>1</sup>See also the Department of Pathology, Indianapolis.

<sup>2</sup>See also the Department of Pharmacology and Toxicology, Indianapolis.

<sup>3</sup>Consent of the director of the Medical Sciences Program also required.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation and 30 credit hours in pathology or research in pathology.

## Foreign Language/Research-Skill

**Requirement** One of three requirements: (1) reading proficiency in two languages, normally selected from French, German, and Russian; (2) proficiency in depth in one language, normally selected from the above languages; or (3) reading proficiency in one of the languages cited in (1), plus proficiency in biostatistics, biomedical instrumentation, or computer science.

**Qualifying Examination** Written and oral.

**Final Examination** Oral defense of dissertation.

## Courses

**C601 General Pathology** (6 cr.) <sup>3</sup>Principles of pathology, including a comprehensive introduction to mechanisms of reaction to injury and pathogenesis of disease processes.

**C602 Systemic Pathology** (6 cr.) <sup>3</sup>Principles of pathology, including a comprehensive introduction to mechanisms of reaction to injury and pathogenesis of disease processes.

**C800 Advanced Pathology (cr. arr.)** P: C603. Subject material and hours arranged to conform to needs of student.

**C858 Experimental Pathology** (5 cr.) Review and performance of selected experiments in pathology illustrating the types of pathologic processes.

**C859 Research in Pathology (cr. arr.)\*** Supervised initiation of a research project in pathology, and counseling in the completion of a thesis.

**C862 Basic Pathologic Techniques** (5 cr.)

Methods of the histologic and chemical laboratories of pathology; principles of examination used in the usual procedures of surgical and autopsy pathology.

**C875 Biochemical Pathology** (3 cr.) P: C603 or B800. A survey of biochemical pathology as demonstrated by recent advances in research in pathology. Selected topics for lecture and discussion will include aspects of tissue, cellular, subcellular, and molecular pathology.

## PHARMACOLOGY 2

**Graduate Advisor** Associate Professor Joseph Near, e-mail: [nearj@indiana.edu](mailto:nearj@indiana.edu), (812) 855-3204

**Degrees Offered** Master of Science and Doctor of Philosophy

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Applicants should have a bachelor's degree in the sciences or a substantial knowledge base in these disciplines. The Graduate Record Examination General Test is required. The TOEFL is required of international applicants.

### Master of Science Degree

**Course Requirements** A total of 30 credit hours, all of which must be taken in the program.

**Thesis** Required.

**Final Examination** Oral defense of thesis.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including 40 credit hours in the program and dissertation.

**Minor** Required.

**Advisory Committee** To be composed of research advisor, the pharmacology faculty, and an individual from the minor discipline.

**Grades** B (3.0) average required.

**Qualifying Examination** Consists of two parts: (1) comprehensive written examination, and (2) written research proposal with oral presentation to the advisory committee.

**Final Examination** Oral defense of dissertation, followed by seminar.

## Courses

**C580 Medical Biochemistry (3 cr.)** Biochemistry for medical students, emphasizing structure-function relationships of cellular components and biosynthesis and degradation of simple and complex cell constituents as well as regulation of metabolic pathways. Includes biochemical basis for genetic continuity and expression of hereditary characteristics.

**C583 Physiological Biochemistry (3 cr.)** P: C483. To develop a sound and rigorous biochemical background for students in medicine and allied health sciences. Biochemistry of physiological and pathological processes; role of heredity and environmental factors; effect on macromolecules, macromolecular aggregates, and cells.

**F605 Principles of Pharmacology I (4 cr.)** P: C483, P531-P532, or consent of instructor.<sup>1</sup> Basic principles and clinical aspects of modern pharmacology presented in lectures. Physicochemical properties of drugs. Drugs that affect the autonomic nervous system.

Drugs that act on cardiovascular and renal systems. Chemotherapy of cancer, infections, and parasites.

### F606 Principles of Pharmacology II (4 cr.)

P: F605. Drugs that influence the central nervous system. Drugs that influence gastrointestinal and endocrine systems. Immunopharmacology and the pharmacology of allergy and inflammation. Toxicology.

**F611 Methods of Pharmacology I (3 cr.)** P: consent of instructor. Chemical and biological procedures used in pharmacological research. Lectures and demonstrations of techniques used for the determination of specific substances in biological material.

**F612 Methods of Pharmacology II (3 cr.)** P: F611. Laboratory application of principles and techniques presented in F611 to practical problems in pharmacological research. Introduction to data handling.

**F613 Graduate Pharmacology I (3 cr.)** P: F605-F606 or consent of instructor. Molecular mechanisms of drug action, drug-receptor interactions, drug metabolism and pharmacokinetics.

**F614 Graduate Pharmacology II (3 cr.)** P: F613 or consent of instructor. Continuation of F613. Molecular mechanisms of drug action, drug-receptor interactions, drug metabolism and pharmacokinetics.

**F615 Chemotherapeutic Pharmacology (3 cr.)** P: F605-F606 or consent of instructor. Basic principles of use of drugs as selectively toxic agents and of chemotherapy of bacterial, parasitic, or viral diseases and malignancies.

**F616 Molecular Pharmacology (3 cr.)** P: F605-F606 or consent of instructor. Molecular mechanisms as they relate to drug action. Biological transducers, receptor mechanisms, subcellular phenomena in the actions of drugs on mammalian systems.

### F617 Pharmacology of Drug Metabolism (3 cr.)

P: F605-F606 or consent of instructor. Physicochemical principles involved in the absorption, distribution, metabolism, and excretion of drugs and other foreign compounds in the mammalian organism.

**F618 Pharmacokinetics (3 cr.)** P: F617. Kinetic aspects of the absorption, distribution, and excretion of drugs in the mammalian organism. Compartmentalization, multiphasic decay curves, and computerized treatments.

**F619 Endocrine Pharmacology (3 cr.)** P: F605-F606 or consent of instructor. The pharmacology of hormones. Biosyntheses, structures, actions, and degradations of hormones endogenous to mammalian species. Structure and pharmacological activity of synthetic analogs and antagonists of naturally occurring hormones.

**F620 Special Topics in Pharmacology (3 cr.)** P: F605-F606 or consent of instructor. Special topics of current interest in pharmacology. May be repeated.

### F621 Readings in Pharmacology (1-3 cr.)

Supplementary readings and tutorial discussions in aspects of pharmacology to fit the needs of individual students or for specialized areas.

### F625 Research in Pharmacology (cr. arr.)

Original research as approved.

### F630 Seminar in Pharmacology (1 cr.)

Research reports by students, faculty, and invited guests.

## PHYSIOLOGY 1

**Graduate Advisor** Associate Professor

Henry Prange, e-mail: [prange@indiana.edu](mailto:prange@indiana.edu), (812) 855-2911

**Degrees Offered** Master of Arts and Doctor of Philosophy

## Special Program Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Applicants should have a bachelor's degree in the sciences or a substantial knowledge base in these disciplines. The Graduate Record Examination General Test is required. The TOEFL is required of international applicants.

### Master of Arts Degree

**Course Requirements** A total of 30 credit hours, including 12 credit hours in physiology. At least 20 credit hours must be in courses other than research.

**Thesis** Required.

**Final Examination** Oral defense of thesis.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation, and the following courses: P513, P531, P532, M555, C580, and C583. P550 is to be taken each semester prior to admission to candidacy. Other course requirements will be determined by the student's advisory or research committee.

### Foreign Language/Research Skill Requirement

Students must demonstrate proficiency in one of the following areas, as determined by the student's advisory committee: a foreign language, statistics, or computer skills.

**Qualifying Examination** Written and oral.

**Final Examination** Oral defense of dissertation.

**Other Provision** One year of supervised teaching required.

**Ph.D. Minor in Physiology** Students outside the department desiring to obtain a minor in physiology are required to complete a minimum of 6 credit hours in physiology courses other than research.

## Courses

**P416 Comparative Animal Physiology (3 cr.)**

**P417 Neurobiology (3 cr.)**

**P418 Laboratory in Comparative Animal Physiology (2 cr.)**

**P421 Biophysical Principles in Physiology (3 or 5 cr.)**

**P431 Human Physiology (4 cr.)**

**P509 Physiological Adaptations (3 cr.)** Mechanisms of adaptation and acclimatization of invertebrate and vertebrate animals to environmental conditions. Seminar-type course.

**P510 Control Systems Theory in Biology (4 cr.)** P: introduction to calculus; P531 or equivalent. Predicting the properties of physiological systems from the dynamic properties of their component parts.

Laboratory emphasizes analog and digital simulation techniques.

**P512 Introduction to Research in Physiology (1 cr.)** Introduction to areas and methods of current faculty research. Required of all new graduate students.

**P513 Introduction to Research Techniques (1 cr.)** P: P512. Individual work on a research problem.

**P530 Special Topics (cr. arr.)** P: consent of instructor. Work in advanced areas in physiology.

**P531 Human Physiology I (3 cr.)** Basic principles of homeostasis; muscle, cardiovascular, and renal physiology and metabolism relevant to humans.

**P532 Human Physiology II (5 cr.)** Basic physiological principles of temperature regulation, respiration, digestion, and endocrinology relevant to humans.

### P541 Advanced Physiology I:

**Neurophysiology (3 cr.)** P: P531, P532 or P417, or consent of instructor. From molecular to behavioral level, with special emphasis on electrophysiology and reflexes.

<sup>1</sup> See also the Department of Physiology and Biophysics, Indianapolis.

<sup>2</sup> Consent of the director of the Medical Sciences Program required in order to enroll.

**P543 Neurophysiology Seminar (2 cr.)** P: P541. May be taken more than once with consent of the department for a maximum of 6 credits.

**P547 Topical Seminar in Physiology (1-5 cr.)** P: graduate standing and consent of instructor. Discussion and review of current research and literature in physiology.

**P548 Neuroethology (2 cr.)** P: consent of instructor. The function of nerve cells in controlling the natural behavior of animals.

Sensory, integrative, and motor processes underlying selected behavior patterns of invertebrate and vertebrate animals.

**P550 Seminar in Physiology (1 cr.)** P: graduate standing in physiology. Biomedical colloquium/seminar series on current topics of interest in medical sciences.

**P551 Advanced Physiology II: Circulation (3 cr.)** P: P531, P532, or P416 or equivalent or consent of instructor. Lecture and seminar discussions of current literature, with emphasis on physical models.

**P561 Advanced Comparative Animal Physiology (3 cr.)** P: P531, P416 or equivalent, or consent of instructor. Lectures and discussions of current literature on mechanisms and adaptations of respiration, temperature regulation, locomotion, and osmoregulation from a comparative approach. Topics will be covered in succeeding years on a rotating basis. May be taken more than once for different topics.

**P575 Advanced Physiology: Exercise (3 cr.)** Study of the regulation and integration of metabolic, cardiovascular, respiratory, endocrinological, and biochemical functions of the human body in response to exercise of all types and durations.

**P576 Advanced Physiology: Work and Environmental (3 cr.)** Mechanisms of contraction and neuromuscular control. Metabolic energy cost, efficiency and the fuels of work. Circulatory and respiratory adjustments and their regulation in exercise. The adjustments and regulation of chemical and thermal homeostasis. Effects of environmental factors, training, age, health, and disease on metabolic, cardiovascular, and respiratory adjustment to exercise. (Offered in School of Health, Physical Education, and Recreation.)

**P620 Renal Physiology (3 cr.)** P: P531, A464, P551, C483. Designed for graduate students in physiology. Covers recent advances in acid-base balance, blood pressure regulation, and salt balance in relation to endocrinology. Offered alternate years in second semester.

**P800 Research in Physiology (cr. arr.)\***  
**BIOL. L500 Independent Study (cr. arr.)** P: must have written consent of faculty member supervising research.

**M555 Medical Neuroscience (5 cr.)** An interdisciplinary study of the morphological, functional, and clinical aspects of the human nervous system.

**GRAD G800 Biophysics Seminar (1 cr.)** Topics of current interest in biophysics.

## Institute for Medieval Studies

College of Arts and Sciences  
Bloomington

Director Associate Professor Sheila Lindenbaum

Department URL: <http://www.indiana.edu/~medieval/>

### Graduate Faculty

**Distinguished Professors** Bruce Cole (History of Art), Edward Grant (Emeritus, History, History and Philosophy of Science), Thomas J. Mathiesen (Music), Mark Musa (Emeritus, French and Italian), Denis Sinor (Emeritus, Central Eurasian Studies)

**Ruth N. Halls Professor** Suzanne Pinckney Stekewych (Near Eastern Languages and Cultures)

**Professors** Salih Altoma (Emeritus, Near Eastern Languages and Cultures), Judith Anderson (English), Theodore Anderson (Emeritus, Germanic Studies), Frank Banta (Emeritus, Germanic Studies), Christopher I. Beckwith (Central Eurasian Studies), Luis Beltrán (Emeritus, Comparative Literature, Spanish and Portuguese), Henry Cooper Jr., (Slavic Languages and Literatures), Lawrence Clopper (English), Alfred David (Emeritus, English), Dyan Elliott (History), Robert Fulk (English), Kari Gade (Germanic Studies), Kenneth R. R. Gros Louis (Comparative Literature, English), Olga Impney (Spanish and Portuguese), Sidney Johnson (Emeritus, Germanic Studies), Eugene Kintgen (English), W. Eugene Kleinbauer (History of Art), Karma Lochrie (English), Consuelo López-Morillas (Spanish and Portuguese), Fedwa Malti-Douglas (Near Eastern Languages and Cultures), Emanuel Mickel (French and Italian), William Newman (History and Philosophy of Science), Samuel Preus (Emeritus, Religious Studies), Samuel Rosenberg (Emeritus, French and Italian), William Shetter (Emeritus, Germanic Studies), Josep Sobrer (Spanish and Portuguese), Paul Spade (Philosophy), Paul Strohm (Emeritus, English), Ian Thomson (Emeritus, Classical Studies), Stephen Wailes (Germanic Studies), William Wiethoff (Communication and Culture)

**Associate Professors** David Brakke\* (Religious Studies), Ann Carmichael (History

History and Philosophy of Science), Jamshed Choksy (Near Eastern Languages and Cultures), Devin DeWeese\* (Central Eurasian Studies), Louise Hammer\* (Slavic Languages and Literatures), Jeffrey Huntsman (English), Sheila Lindenbaum\* (English), Rosemarie McGerr\* (Comparative Literature), Domenico Bertoloni Meli (History and Philosophy of Science), Jacques Merceron\* (French and Italian), Larry Moses (Emeritus, Central Eurasian Studies), Leah Shopkow\* (History), Hava Tirosh-Samuelson (Religious Studies), Kemal Slay (Near Eastern Languages and Cultures), Barbara Vance (French and Italian), Martha Vinson\* (Classical Studies), John Walbridge (Near Eastern Languages and Cultures)

**Assistant Professors** Scott Alexander\* (Religious Studies), Paul Losensky\* (Near Eastern Languages and Cultures)

**Academic Advisor** Associate Professor Sheila Lindenbaum, Ballantine Hall 519, (812) 855-6536; e-mail: [mesf@indiana.edu](mailto:mesf@indiana.edu)

### Ph.D. Minor in Medieval Studies

**Course Requirements** Four courses in medieval studies outside of the student's major department. These courses must be from at least two different departments and must include one of the courses listed below. The selection of courses should be made in consultation with the director of the institute.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the minor.

**Examination** None.

### Area Certificate in Medieval Studies

The Area Certificate in Medieval Studies is designed to allow doctoral students to investigate medieval civilization more extensively than in the Ph.D. minor program.

**Course Requirements** Nine courses on the medieval period: four in the student's major department and five in other departments, two of which should be drawn from the group of courses listed below. The selection of courses not in the student's major department should be made in consultation with the director of the institute. Students in departments that do not provide the requisite four medieval courses in their disciplines may design an alternative program in consultation with the director of the institute.

**Language Requirements** Students must demonstrate advanced proficiency in one of the following languages: Latin, Greek, Hebrew, Arabic, or Persian. Advanced proficiency can be established by taking more

than the two advanced courses (e.g., Latin L300 and L400 or L409) or by appropriate advanced exam, or by other means in consultation with the director of the institute. Graduate courses in the medieval period are offered by twelve COAS departments in addition to the Medieval Studies Institute. Students should consult the Schedule of Classes or the Medieval Studies Web site <http://www.indiana.edu/~medieval/home.html> for a complete list of courses offered in a given semester.

**Grades** Courses in which a student receives less than a B (3.0) will not count toward the certificate.

**Examination** None.

### Courses

**M500 Introduction to Medieval Studies (4 cr.)** An introduction to issues and practices in the field with some attention to bibliographical tools.

**M502 Colloquium in Medieval Studies (4 cr.)** Investigation of an interdisciplinary problem in medieval civilization, topic and disciplines to vary, or readings of foundational texts from the period. May be repeated for credit.

**M600 Medieval Manuscripts (4 cr.)** Paleography, codicology, diplomatics; the study of manuscript production, history, and use. May be repeated for credit.

**M700 Seminar in Medieval Studies (4 cr.)** Advanced research in specialized topics and problems in the field. May be repeated for credit.

**M815 Readings in Medieval Civilization (1-4 cr.)**

**Classical Studies**

**L300 Intensive Introduction to Classical and Medieval Latin (3 cr.)**

**L400 Intensive Study of Literary Latin (3 cr.)**  
**L409 Readings in Medieval Latin (3 cr.)**

## Microbiology and Immunology

School of Medicine  
Indianapolis

**Chairperson** Professor Hal E. Broxmeyer  
**Department URL:** <http://www.iupui.edu/~it/micro/dept.html>

### Graduate Faculty

**Professors** Richard Bockrath, Janice Blum, Hal E. Broxmeyer, David Donner, Richard Haak, Ann Roman, Raoul Rosenthal, Robert Schloemer, Arun Srivastava

**Associate Professors** Michael Klemsz, Steven Larsen, Warner Wegener, Charles Wilde III  
**Assistant Professors** Chahib Alkhatib\*, Randy Brutkiewicz\*, Alexander Dent\*, Johnny He\*, Mark Kaplan\*

### Associate Faculty

**Professors** Byron Batteiger (Medicine), Zacharie Brahmí (Medicine), Kenneth Fife (Medicine), Robert Jones (Medicine), Chris Miller (Dentistry), Stanley Spinola (Medicine)

**Associate Professors** Darron Brown (Medicine), D. Wade Clapp (Pediatrics), Kenneth Cometta\* (Medicine), Edward Srour (Medicine), David Wilkes (Medicine)

**Assistant Professor** Thomas Gardner\* (Urology)

**Graduate Advisor** Associate Professor Michael Klemsz, Medical Science Building 257, (317) 274-7671; fax: (317) 274-4090; e-mail: [mklemsz@iupui.edu](mailto:mklemsz@iupui.edu)

**Degrees Offered** Master of Science and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** The Graduate Record Examination General Test is required, and the Subject Test in cellular and molecular biology is recommended. Undergraduate courses in basic biology, including cell biology and genetics; general and organic chemistry; physics; mathematics, including calculus; and biochemistry. Deficiencies should be removed during the first year of enrollment. Overall grade point average of at least 3.0 (B).

### Master of Science Degree

**Course Requirements** At least 30 credit hours, including thesis, B500 Biochemistry, and J601 Microbiology or J822 or their equivalents. At least 20 of the required 30 credit hours must be in courses other than research; a maximum of 4 credits in J800 can be applied toward these 20 credit hours.

**Grades** Overall average of at least a B (3.0).

**Comprehensive Examination** Required at completion of second semester of study.

**Thesis** Required (a minimum of 8 credit hours of J810).

**Final Examination** Oral defense of thesis.

### Doctor of Philosophy Degree

**Focus Areas** The major focus areas are immunology, pathogenesis, and cancer. Students entering the program may design a course of study from one of these areas through

a combination of selected course work and research activities.

**Course Requirements** A total of 90 credit hours, of which a minimum of 26 credit hours must be in courses other than research. Required courses include G817 and G865, or their equivalent, one credit of G504 and three semesters of J830 Seminar in Microbiology. Students take 2 credits of J802 Introduction to Research in Microbiology and Immunology. A minimum of four courses is selected from an area of emphasis: immunology, pathogenesis, or cancer. A maximum of 4 credits of J800 can be applied toward the required 26 credit hours of course work. G817 and G865 can be applied toward the minor requirements with approval of the minor representative. A minimum of 40 credit hours of dissertation research (J810) is required.

**Grades** Overall average of at least a B (3.0).

**Minor** A minimum of 12 credit hours in a related field or in life science. These credits must be in lecture or laboratory courses other than research and must meet the requirements of the department in which the minor is taken. For the life sciences minor, a minimum of 6 credit hours must be obtained in one department.

### Ph.D. Minor in Cellular and Molecular

**Biology of Biomedical Systems** A minimum of 12 credit hours of course work outside the student's major department, including G865 Fundamental Molecular Biology and either G817 Eukaryotic Cell Biology or F705 Molecular and Cellular Physiology (unless these are required by the major department). Since the minor is intended to expose the student to both cellular and molecular biology, at least one course (and preferably two) from each area should be taken. Courses for the minor must be selected from the following list and approved by the advisory committee, the minor representative of which will be selected from outside the student's major department. Courses: Anatomy D863, D866; Biochemistry B807, B810, G817, B841; Medical and Molecular Genetics Q612, Q620, Q622; Microbiology and Immunology J805, J821, J826, J828, J837, J838; Pharmacology and Toxicology F808, F832, F834, F835, F842, F843; Physiology and Biophysics F705, F710, F724, F765; Graduate C595, G865, G890.

**Ph.D. Minor in Cancer Biology** A minimum of 12 credit hours outside of the student's major department, including two courses from the following list of four: Q622 Cytogenetics of Malignancies, F819 Chemical Carcinogenesis, J842 Neoplastic Determinants, BIOL516 Molecular Biology of Cancer. At least one credit of G504 Introduction to Research Ethics must also be taken. The remainder of the minor will be selected from the following courses: Graduate G865, G817, G807; Biochemistry and Molecular Biology B807, B810; Medical and

Molecular Genetics Q620, Q622; Microbiology and Immunology J805, J807, J828, J829, J837, J840, J842, J854; Pharmacology and Toxicology F819, F820. The minor program must be approved by the student's Advisory Committee which will take into consideration the student's total didactic experience. In the case of combined M.D./Ph.D. students, the Committee may approve substitution of appropriate medical school courses. The minor representative on this Committee will be selected from outside the student's major department and must be a member of the Cancer Biology Training Program.

**Qualifying Examination** Within the first 25 months of studies, the student submits a written research proposal in the form of a grant application to the advisory committee. At this time, the student has both a written examination based on course work and an oral examination based primarily on the written research proposal. The student can request an extension of four months from the faculty to take the qualifying examination. Doctoral studies are continued if the qualifying examination and other work, including research, are deemed satisfactory by the majority of the advisory and research committees.

**Final Examination** Oral defense of the dissertation.

**Other Provision** Submission of a manuscript based on the dissertation research for publication in a primary journal in the field required. Students will develop teaching skills as instructors in J201 during the first two years of graduate training and additional teaching experiences can be arranged.

### Courses

**J510 Infectious Microbes and Host Interactions (3 cr.)** P: graduate-level biochemistry. Emphasis on the molecular and cellular events which permit pathogenic bacteria and viruses to enter human cells and disrupt cell function while evading the host's immune system.

**J601 Medical Immunology (2 cr.)** Introduction to natural and acquired immune mechanisms, with consideration of their significance to medicine. Topics will include both normal and abnormal immune processes, including recovery from and prevention of disease, immune-mediated pathological processes, tumor immunology, immunodeficiency and auto-immunity. Designed to precede and complement J602 Medical Microbiology.

**J611 Introduction to Biophysics I (3 cr.)** P: consent of instructor. An introductory course including principles of mechanics, fluid statics and dynamics, introductory classical thermodynamics and diffusion, electricity, feedback and control as related to biologically significant systems.

**J612 Introduction to Biophysics II (3 cr.)** P: J611 or equivalent. The statistical basis of physical principles governing molecular processes, including diffusion and transport across membranes; thermodynamics; probability and the relationship of information theory, statistical mechanics, quantum mechanics, Boltzmann and Poisson distributions; and flow of movements and mass. Applications to current biophysical research are presented.

**J800 Advanced Microbiology (cr. arr.)\*** P: consent of instructor. The approach to problems in microbiology, including the application of techniques of bacteriology, genetics, immunology, mycology, parasitology, virology, and zoology.

**J802 Introduction to Research (2 cr.)** P: consent of instructor. Laboratory research instruction in microbiology and immunology. Purpose is to introduce students to three different research programs in microbiology and/or immunology.

**J805 Molecular Immunology (3 cr.)** P: B500 or equivalent; consent of instructor.

Characterization of immunologically relevant molecules in terms of molecular genetics, synthesis and assembly, structure-function and evolutionary relationships, and functional roles in immune responses. Entities to be considered include members of the immunoglobulin superfamily and functionally associated molecules.

**J806 Immunochimistry: Laboratory (cr. arr.)** P: J805 C. Antigen preparation; separation and purification of antibodies; modern methods of antibody determination and analysis.

**J807 Current Topics in Immunology (2 cr.)** P: graduate standing, J805 or J840 or equivalent or consent of instructor. Discussion and review of current literature in selected topics in immunology. Emphasis on molecular and cellular events in lymphocyte activation and regulation. Topic varies from year to year. May be repeated for credit.

**J810 Research in Microbiology (cr. arr.)\*** P: consent of instructor. Data obtained in this course may be used to meet the thesis requirements for graduate degrees.

**J817 Biology and Chemistry of Fungi (3 cr.)** P: BIOC B800 or equivalent. Current taxonomy, ultrastructure, metabolism, and genetics of slime molds and higher fungi, including those pathogenic for humans.

**J821 Microbial Pathogenicity (3 cr.)** This course will consider in detail the determinants of microbial virulence and the mechanisms of host responses to infection and how these two factors interact in the pathogenesis of infectious diseases.

**J822 General and Medical Microbiology (3 cr.)** Lectures covering the biology of various pathogenic organisms such as bacteria, viruses, fungi, and parasites, their role in human disease with emphasis on determinants of



microbial virulence, the mechanisms of host responses to infection, and the role of these factors in the pathogenesis of disease.

**J826 Bacteriology (3 cr.)** P: J601 or J822 or their equivalent and consent of instructor. General concepts of bacteriology.

**J828 Virology: Lecture (3 cr.)** P: BIOC B500 or equivalent and consent of instructor. Basic biological principles of viruses; agents causing diseases in animals, including humans; interactions of animal viruses with their host cells in tissue culture.

**J829 Current Topics in Molecular Genetics of Microorganisms (2 cr.)** P: graduate standing, J821, J828 or G865, consent of instructor. In-depth study of a specific topic in contemporary molecular genetics of microorganisms. Topic varies; may be taken for credit more than once.

**J830 Seminar in Microbiology (1 cr.)** P: consent of instructor. Provides students with background and practical experience in communication of their research.

**J837 DNA Repair, Mutation, and Recombination (3 cr.)** P: consent of instructor. The molecular biology of genetic repair, mutation, and recombination; emphasis on functional capabilities of the processes that exist, how they were discerned, and their significance in the wider context of the molecular cell.

**J838 E. coli Genetics Laboratory (1-3 cr.)** P: relevant academic experience and consent of instructor. Bacterial cultures, mutagenesis, transformation, bacteriophage, strain construction, and phenotype assays; individual projects combining *in vitro* and *in vivo* recombination, restriction-electrophoresis analysis of plasmids and/or DNA sequencing.

**J840 Mechanisms of Immune Regulation (2 cr.)** P: consent of instructor. A current overview of the cellular mechanisms which regulate immune responses. Topics include cells and cytokines involved in antigen presentation, lymphocyte activation and function, development, and tolerance.

**J842 Neoplastic Determinants (2 cr.)** P: G865, G817 or equivalent and consent of instructor. Focus on the genetic basis of the cancer phenotype. Consider effects of DNA sequence mutations, chromosomal rearrangements, and/or introduction of new genetic information on DNA repair, oncogene products and tumor suppressors. Intra- and intercellular consequences of these discrete alterations will be included.

**J854 Hematopoiesis (2 cr.)** P: G817, G865, and consent of the instructor. Principles of blood cell formation, including the regulation of production, biologic function, and cell culture and recombinant DNA technologies that contribute to our understanding. Stem cells, growth factors, cytokine involvement, gene transfer/gene therapy and clinical applications.

**J959 Oral Microbiology (1-3 cr.)** P: basic microbiology. Role of oral microorganisms in

health and disease states of the host. Emphasis will be placed on the biological mechanisms involved in dental caries, periodontal disease, and specific microbial infections of the oral cavity.

**J960 Oral Microbiology Seminar (1 cr.)** P: basic microbiology. Current topics in the field of oral microbiology.

**GRAD G817 Eukaryotic Cell Biology (2 cr.)** P: one semester of biochemistry. Organization and function of subcellular structures. Intracellular coordination of cell activity: protein and RNA trafficking, chromatin dynamics, and intracellular processing of receptor mediated signals.

**GRAD G865 Fundamental Molecular Biology (3 cr.)** P: B800 or equivalent. Principles of molecular structure, function, and biosynthesis; core information regarding prokaryotic and eukaryotic gene continuity and metabolic coordination; introduction to multicellular systems and problems.

## Music

**School of Music  
Bloomington**

**Interim Dean** Gwyn Richards

**Departmental e-mail:** musgrad@indiana.edu

**Departmental URL:**  
<http://www.music.indiana.edu/som/grad/>

### Graduate Faculty

**Distinguished Professors** David Baker Jr., Thomas Mathiesen, Menahem Pressler, Eugene Rousseau (Emeritus), Janos Starker

**Professors** A. Peter Brown, Keith Brown (Emeritus), Malcolm Brown (Emeritus), George Buelow (Emeritus), J. Peter Burkholder, Austin Caswell (Emeritus), Frederick Fox (Emeritus), Jane Fulcher, Mary Goetze, Michael Gordon, Roger Havranek,\* Lawrence Hurst,\* Estelle Jorgensen, Vernon Kiewer (Emeritus), David Neumeyer, Thomas Noblitt (Emeritus), Benito Rivera, Lewis Rowell, Anya Peterson Royce (Anthropology), Charles Schmidt, Charles Webb (Emeritus), Mary Wemmersstrom, Allen Winold (Emeritus), Gary Wittlich

**Associate Professors** Eric J. Isaacson, Marianne Kjelian-Gilbert, Daniel R. Melamed, Gary Potter\*

**Assistant Professors** Gretchen Horlacher,\* Jeffrey Magee\*

**Director of Graduate Studies** Associate Professor Daniel R. Melamed, Merrill Hall 011, (812) 855-1738

**Degrees Offered** Master of Arts, Master of Arts for Teachers, dual Master of Arts and Master of Library Science (jointly with the School of Library and Information Science), and Doctor of Philosophy. In addition, the

School of Music offers the Master of Music, the Master of Science in Music, the Master of Music Education, the combined Master of Music and Master of Library Science (jointly with the School of Library and Information Science), Specialist in Music Education, Certificate in Organ and Church Music, the Doctor of Music, and the Doctor of Music Education degrees.

The University Graduate School also offers the Master of Arts in arts administration degree (described elsewhere in this bulletin). For information regarding degrees offered exclusively or jointly by the School of Music and the School of Library and Information Science, see their respective bulletins.

### Special School Requirements

(See also general University Graduate School requirements.)

**Admission** To work for a degree in music through the University Graduate School, a student must first be admitted to the School of Music; after satisfactorily completing one semester of course work, the student may apply for admission to the University Graduate School. The Graduate Record Examination General Test and the Subject Test in music are required for admission. Entrance proficiency examinations are also required; for details see the Graduate Division section of the School of Music Bulletin.

Students must meet the general requirements of the University Graduate School and the specific requirements of the School of Music outlined in its bulletin.

**Grades** Current and cumulative grade point average of at least 3.0 (B).

### Master of Arts Degree

Majors are available in music theory and musicology.

**Admission** Undergraduate major in music or demonstration of undergraduate equivalency in music. Also see major-specific requirements described in the School of Music Bulletin.

**Major-Field Requirements** For music theory majors, twenty (20) credit hours including T531, T550, T551, T556, T557, T558, and T591. For musicology majors, eighteen (18) hours including M551; 9 credit hours selected from M598, M691, M692, M693, M694, M695, M696, and M698; 6 credit hours of electives from courses or seminars in musicology or music theory approved by the student's academic advisor.

**History and Literature Courses** Six (6) credit hours selected from M525 Survey of Operatic Literature (3 cr.), M527 Symphonic Literature (3 cr.), M528, M651 Medieval Music (3 cr.), M652 Renaissance Music (3 cr.), M653 Music of the Baroque Period (3 cr.), M654 Classic Music (3 cr.), M655 Romantic Music (3 cr.), M656

Twentieth-Century Music (3 cr.); OR 3 credit hours selected from the list above and 3 credit hours selected from M502 Composers: Variable Title (3 cr.) or M510 Topics in Music Literature (3 cr.).

**Cognate** Six (6) credit hours in a field inside or outside of music in which the student has sufficient background to do graduate-level work. Music theory majors must take the cognate in a field outside of music.

**Tool-Subject Requirement** Proficiency in music bibliography, as demonstrated by examination or by passing M539 with a grade of B or higher.

**Foreign Language Requirement** Musicology majors must demonstrate reading proficiency in French, German, Italian, Latin, or Russian (language choice as approved by the student's academic advisor). Students satisfy the requirement by passing a reading examination prepared by members of the musicology faculty. The examination includes one historical text, to which the student responds by answering questions on its content, and one modern musicological text, which the student translates. Each text is approximately 400 words. The examination lasts three hours; a dictionary may be used.

**Ensemble** Required each semester of enrollment.

### Master of Arts for Teachers

**Major-Field Requirements** Thirty-two (32) credit hours, distributed as follows:

1. music education: E518, E545, and one or two courses selected from Education M337 and/or M338.
2. professional education: one course selected from Education H520, Education H530, or Education H540; one course selected from Education P510 or Education P516; Education M580; one course selected from Education M464, Education L514, or Education L517; Education M300; Education M474; Education W200.

**Music Techniques** Credit hours, as needed to meet the requirements of the area in which the student expects to be certified.

**General Education Courses** Credit hours, as needed to meet the certification requirements of the state in which the student expects to teach. These are normally undergraduate courses and do not count toward the total credit hours required for the M.A.T. degree.

### Dual Master of Arts and Master of Library Science Degrees

This program permits the student to coordinate a Master of Arts degree in music theory or musicology with a Master of Library Science degree.



**Admission Requirement** In addition to the general requirements, the student must apply for admission to the School of Music (and, after one semester, to the University Graduate School) as well as to the School of Library and Information Science and must meet admission criteria established by each.

**Requirements** The student must satisfy the requirements for a Master of Arts degree in music theory or in musicology and for a Master of Library Science degree, L503, L505, L507, L520, L524, L528, L596, L631, Music M539, and 3 credit hours of electives in SLIS for a total of 30 credit hours in SLIS.

### Doctor of Philosophy Degree

Majors are available in music education, music theory, and musicology.

**Admission** Master's degree, or its equivalent, normally with a major in the same area. Also see major-specific requirements described in the School of Music Bulletin.

**Major-Field Requirements** For music education majors, E519, E530, E616, E618, E635, E638, E659, E660 or E661, E662; dissertation (12 hours). For music theory majors, T623, T624, T655, T656, T658, T659; 9 credit hours in a track or concentration chosen from history of music theory, structure of music, or pedagogy of music; dissertation (12 credit hours). For musicology majors, M661, M662; 9 credit hours from M598, M691, M692, M693, M694, M695, and M698; 6 credit hours of approved electives in musicology or music theory; dissertation (15-36 hours).

**Minors** Music education and musicology require at least one minor, which may be inside or outside of music. Musicology majors may use courses taken for the M.A. cognate in partial fulfillment of a Ph.D. minor, subject to approval from the department involved. Music

theory requires two minors, the first of which must be music history and literature or musicology, the second of which may be inside or outside of music.

**Tool-Subject Requirement** For music education majors, E531 and E532 with a grade of C or evidence of proficiency in these courses as demonstrated by examination. For music theory and musicology majors, proficiency in music bibliography, as demonstrated by examination or by passing M539 with a grade of B or higher.

**Foreign Language Requirement** Reading proficiency in two foreign languages. Music education and music theory majors may substitute a research skill for the second language. Musicology majors may count as one of the two languages the language required for the M.A. degree. See the heading "Foreign language requirement" under the M.A. degree for more information about the musicology language examination.

**Ph.D. Minors for Students Outside the School of Music** Minors in music for doctoral students outside the School of Music may be taken within one of the established departments of the School of Music. No general entrance examinations are required, but the director of graduate studies may require entering proficiency examinations. Acceptance as a minor, prerequisites, and minimum requirements are established by the director of graduate studies. No transfer credits will be accepted toward a music minor.

### Courses

For a list of courses and their descriptions, see the School of Music Bulletin.

## Mythology Studies

College of Arts and Sciences  
Bloomington

**Directors** Professor William Hansen, Associate Professor Gregory Schrempff\*  
**Interdepartmental Graduate Committee on Mythology Studies** Professors J. Gordon Brotherton (Spanish and Portuguese), Raymond DeMallie (Anthropology), Robert Fulk (English), Karl Gade (Germanic Studies), William Hansen (Classical Studies, Folklore), Robert Ivie (Communication and Culture), Eleanor Winsor Leach (Classical Studies), John McDowell (Folklore), Associate Professors David Haberman (Religious Studies, India Studies), Jeffrey Huntsman (English), Gregory Schrempff\* (Folklore)

### Associate Faculty

**Associate Professors** Cynthia Bannon\* (Classical Studies), Stephanie Kane (Criminal Justice), Helen Sword\* (English)

### Ph.D. Minor in Mythology Studies

**Course Requirements** Students must complete twelve (12) or more graduate credit hours of appropriate courses. All courses must be approved in advance by the Mythology Studies advisor.

At least one (1) of the courses must be a core course, either Folklore F545 Folk Narrative (Analysis of Myth) or Folklore F545 Folk Narrative (Cosmology and Worldview) or Classical Studies C405 Comparative Mythology. Other courses taught by participating faculty may be designated by the Mythology Studies advisor as fulfilling the core requirement when they provide a theoretical and methodological overview of the study of mythology.

No more than two (2) courses may be taken in a single department. No more than three (3) credit hours of directed readings can be applied to the minor.

**Grades** A minimum of B (3.0) in all courses that count toward the minor.

**Examination** None.

### Courses

#### Classical Studies

**C405 Comparative Mythology (4 cr.)** P: C205, graduate standing, or consent of instructor. Advanced theoretical study of the forms and functions of classical Greek and Roman myths, including reading and evaluation of comparable myths in ancient Near Eastern cultures (Egypt, Mesopotamia, Anatolia, Canaan). Comparative reading and evaluation of selected myths from outside the Mediterranean cultural area.

#### Folklore

**F545 Folk Narrative (3 cr.)** (Topic: Analysis of Myth) Examination of myths, folktales, legends, jokes, fables, anecdotes, personal narratives, or other forms of folk narrative. Attention given to the content, form, and functions of the narratives as well as the variety of theories and methodologies employed in their study. May be repeated for credit when topic changes.

**F545 Folk Narrative (3 cr.)** (Topic: Cosmology and Worldview) Examination of myths, folktales, legends, jokes, fables, anecdotes, personal narratives, or other forms of folk narrative. Attention given to the content, form, and functions of the narratives as well as the variety of theories and methodologies

employed in their study. May be repeated for credit when topic changes.

## Near Eastern Languages and Cultures

College of Arts and Sciences  
Bloomington

**Chairperson** Jamsheed K. Choksy

**Departmental e-mail:** nelcmesp@indiana.edu

### Graduate Faculty

**Core Faculty**

**Ruth N. Hall's Professor** Suzanne Pinckney Stetkevych

**Professors** Salman Al-Ani, Salih Altoma (Emeritus), Henry Fischel (Emeritus), Wadie Jwaideh (Emeritus), Consuelo Lopez-Morillas

**Associate Professors** Jamsheed Choksy, Stephen Katz, Kemal Sılay, John Walbridge

**Assistant Professor** Paul Losensky\*

**Adjunct Faculty**

**College Professor** Henry Glassie (Folklore)

**Professors** James Ackerman (Emeritus, Religious Studies), İlhan Başgöz (Emeritus, Central Eurasian Studies), Gustav Bayerle (Emeritus, Central Eurasian Studies), Christopher Beckwith (Central Eurasian Studies), Hasan El-Shamy (Folklore), Iliya Harik (Emeritus, Political Science), W. Eugene Kleinbauer (Fine Arts), M. Nazif Shahrani (Anthropology, Central Eurasian Studies)

**Associate Professors** Herbert Marks (Comparative Literature)

**Director of Graduate Studies** Kemal Sılay, Goodbody Hall 102, (812) 855-5227

**Degrees Offered** Master of Arts in Near Eastern Languages and Cultures and Doctor of Philosophy in Near Eastern Languages and Cultures

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** The Graduate Record Examination General Test is required for all applicants. Students with a B.A. should apply for admission to the M.A. program.

### Master of Arts in Near Eastern Languages and Cultures

**Language Requirements** The department specializes in four languages: Arabic, Hebrew,

**Persian, and Ottoman and Modern Turkish.** All master's students must gain third-year proficiency in one of these languages, and either second-year proficiency in another of them or reading proficiency in an appropriate European language, as stipulated in the "General Requirements" section of the bulletin. In consultation with the director of graduate studies, other Semitic or Iranian languages may be used to satisfy the major or minor language requirement.

In departmental language tracks that have a two-year sequence, graduate level courses using the appropriate language may, with the approval of the director of graduate studies, count toward the third-year requirement. Biblical and Modern Hebrew may be combined to make up the three years, with the approval of the director of graduate studies.

**Course Requirements** A minimum of 36 credit hours of graduate work. Of these 36 credit hours, a minimum of 18 credit hours must be in courses involving use of the major language (Arabic, Hebrew, Persian, or Ottoman and Modern Turkish).

**Degree Requirements** 36 credit hours plus written M.A. examinations. The exams will consist of three two-hour exams: one in the student's major language and two in fields chosen with the M.A. advisor. Students must notify the director of graduate studies and M.A. advisor no later than July 31 for the following fall examinations, and November 30 for the following spring examinations. The examining committee will be composed of a minimum of two faculty members. The student may retake a failed exam once. On the basis of the student's performance, the student's M.A. examination committee will prepare a recommendation for possible admission to the Ph.D. program that will be submitted along with the student's dossier, if the student requests admission to the Ph.D. program.

## Doctor of Philosophy Degree in Near Eastern Languages and Cultures

**Admission Requirements** The Graduate Record Examination General Test is required. Students should hold an M.A. for admission to the Ph.D. program. Students holding an M.A. from another institution should include a writing sample as part of their application for admission. Students with an M.A. from the Indiana University Department of Near Eastern Languages and Cultures will be asked to submit a statement of their Ph.D. plans as part of their admission dossier to the Ph.D. program.

**Course Requirements** A minimum of 75 credit hours of graduate work (including credits earned for the M.A.) plus dissertation. For details regarding courses, consult the director of graduate studies.

**Language Requirements** All candidates will be required to demonstrate proficiency in three languages: (1) fifth-year standing in the major language (Arabic, Hebrew, Persian, or Ottoman and Modern Turkish); (2) third-year standing in the minor language (Arabic, Hebrew, Persian, or Ottoman or Modern Turkish); and (3) a European research language (normally, French, German, or Spanish), chosen in conjunction with the director of graduate studies and tested according to the graduate school's rules. In consultation with the director of graduate studies, other Semitic or Iranian languages may be used to satisfy the major or minor language requirement. Biblical and Modern Hebrew may also be combined to satisfy it with the approval of the director of graduate studies.

**Outside Minor** Students are required to minor in an outside department or program. This minor should be selected so that it enriches and logically supports the student's major field. Students must fulfill the relevant department's rules for outside minors.

**Qualifying Examination** Students will be examined on one major and two minor fields. A complete list of major and minor fields is available from the director of graduate studies. These fields are organized within the three general departmental areas of: (1) civilizations and religions, (2) linguistics, and (3) literature. A student's three fields must be taken from within at least two of the three general areas listed above.

Written examinations will be given by at least two professors; the major field lasting for three hours, and the minor field exams for two hours each. Upon successful completion of the written examinations, a student will take the oral examination within four weeks of the written examination. These examinations may be retaken once in whole or in part at the discretion of the examination committee.

**Final Examination** Oral defense of the dissertation.

**Ph.D. Minor in Near Eastern Languages and Cultures** Students from other departments are welcome to minor in the study of Near Eastern Languages and Cultures as part of their doctoral program. To do so, they are required to take at least 12 credit hours of graduate-level course work, to be approved by the director of graduate studies so as to form a

coherent program. Students must maintain a 3.0 average for the minor as a whole.

**Termination of Enrollment in the Doctoral Program** If a doctoral student fails the written qualifying examinations twice, fails the oral qualifying exam twice, falls below a 3.5 average, or fails to complete the written and oral examinations by the end of the approved length of time, the director of graduate studies, in consultation with the research committee, can initiate steps to terminate the student's enrollment in the program.

## Courses

### Arabic Language and Literature

#### A500-A550 Elementary Arabic I-II (2-2 cr.)

This course is an introduction to Modern Standard Arabic as it is used in contemporary literature, newspapers, and radio. The course will focus on grammar, reading, dictation, composition, penmanship, conversation, and translation.

#### A600-A650 Intermediate Arabic I-II (3-3 cr.) P:

A500-A550. This course emphasizes grammar, reading, composition, conversation, and translation using materials from medieval classical and modern literary Arabic.

#### A660-A670 Advanced Arabic I-II (3-3 cr.) P:

A600-A650. This course focuses on the continued development of speaking, listening, reading, and writing skills in modern standard Arabic. Materials drawn from classical prose will be introduced for study.

**N510 Arabic Composition I (3 cr.) P:** consent of instructor. This course is designed to focus on instruction and practice in writing and reading Arabic. It is intended to develop skills in writing correct Arabic sentences, paragraphs, and themes related to a variety of subjects.

#### N512 Classical Arabic Grammar (3 cr.)

P: consent of instructor. This course provides a systematic treatment (in Arabic) of the principal features of classical Arabic grammar. The technical Arabic terms and the concepts associated with them will be introduced, analyzed, and illustrated.

**N523 Conversational Arabic I (3 cr.)** Formal spoken or "polite" Arabic, with attention to divergences in Arabic dialects.

#### N529 Arabic Phonetics and Phonology (3 cr.)

This course presents a systematic study of Arabic phonetics and phonology utilizing scientific phonetics, both practical and theoretical, and the phonological processes of generative phonological theory.

#### N555 Multimedia Arabic (3 cr.)

Modern literary Arabic as found in printed and non-printed contemporary media. Materials selected from leading newspapers and magazines from the Arab world covering a

variety of current political and cultural topics. Documentaries and live and taped television newscasts will also be utilized.

**N570 Koranic Studies (3 cr.)** The Koran in its historical role as the Islamic revelation.

Particular attention will be paid to its formation and compilation, the structural and stylistic characteristics of the text, and its role and function in Islam as well as the different schools of interpretation throughout history, and comparative studies between the Koran and the Judeo-Christian scriptures.

**N590 Directed Readings in Arabic (1-6 cr.)** In this course students will read and analyze Arabic or translated texts that are selected in accordance with the student's level and interests.

**N598 Individual Readings in Arabic Language and Linguistics (1-6 cr.)** Analysis of materials in the fields of Arabic language and linguistics. Students may register to research certain aspects of these fields that are not covered by the regular sequence of Near Eastern Languages and Cultures courses.

#### N690 Research in Classical Arabic Texts (3 cr.)

This course provides intensive training in classical Arabic. Emphasis is placed on the accurate reading and translation of classical texts, their grammatical and stylistic features, and the use of modern and classical lexical. The course also includes a survey of relevant bibliographic and secondary sources. Variable topic; may be repeated for credit.

#### N701 Topics in Arabic Literature (2-3 cr.)

Examination of translated Arabic literature of the Middle East and North Africa, as well as relevant modern Western works. All works read in English. May be repeated for credit when topic varies.

#### N707 Seminar in Classical Arabic Literature (4 cr.) P:

ability to read classical Arabic texts. Intensive study of selected literary movements, periods, or genres. Individual research papers required.

#### N709 Seminar in Modern Arabic Literature (4 cr.) P:

ability to read classical Arabic, study classic Arabic literature during nineteenth and twentieth centuries, with special emphasis on Western influence.

#### N710 M.A. Thesis (cr. arr.)\*

#### N810 Ph.D. Thesis (cr. arr.)\*

### Hebrew Language and Literature

#### H500-H550 Elementary Hebrew I-II (2-2 cr.)

Introduction to Hebrew as it is used in conversation, radio, press, and popular literature. Emphasis is given to phonetic and structural drills, grammar, reading, writing, and composition.

#### H600-H650 Intermediate Hebrew I-II (3-3 cr.)

P: H500-H550 or equivalent. Continuation of H500-H550. The course is designed to enable

students to add classical and medieval Hebrew at a later stage.

**H670-H680 Advanced Hebrew I-II (3-3 cr.) P:** H600-H650 or other sufficient preparation. The course focuses on the completion of grammar and introduction to literature of all ages (biblical, midrashic, medieval, and modern), including grammar, style, vocabulary, technical terms, and literary forms.

**N471-N472 Biblical Hebrew I-II (3-3 cr.)** This course is an accelerated introduction to Biblical Hebrew. Emphasis is placed on grammar, morphology and syntax.

**N473-N517 Biblical Hebrew III-IV (3 cr.)** In this course students will study various genres of biblical writings through a careful examination of such passages in the original language.

**N587 Modern Hebrew Literature in English (3 cr.)** This course examines nineteenth- and twentieth-century fiction, poetry, and essays, under such headings as assimilation (ideal or aberration); ghetto and world, secularism vs. tradition; ethnicity, land and universalism; nation, religion, state; utopias and revolution; nostalgia, self-hate, rejuvenation; and portrayal of anti-Semitism in literature.

**N588 Recent Hebrew Literature in English (3 cr.)** In this course students will analyze contemporary Hebrew fiction, poetry and essays with relevance to contemporary issues, such as the past (burden or asset?); the meaning of Europe and Near East; the kibbutz; ideal and reality; Jews, Arabs, Canaanites; diaspora and center; the personal and collective; inwardness or realism; wars, holocaust, and peace.

**N591 Directed Readings in Hebrew (1-6 cr.)** In this course students will read and analyze Hebrew or translated texts that are selected in accordance with the student's level and interests.

**N691 Research in Medieval Hebrew Texts (3 cr.)** This course provides intensive training in the use of medieval Hebrew as a research tool. Emphasis will be placed on the accurate reading and translating of medieval texts, on grammatical and stylistic characteristics of the texts, and on the use of appropriate lexical. Variable topic; may be repeated for credit.

**N708 Seminar in Judaic Literature (4 cr.) P:** consent of instructor. This course emphasizes the study of selected representative literary works of classical, medieval, and modern periods; original texts or translation.

### Persian Language and Literature

**P500-P550 Elementary Persian I-II (2-2 cr.)** Covers the basic grammar of modern Persian, along with conversation, composition, reading, and translating from selected materials dealing with Iranian civilization.

**P600-P650 Intermediate Persian I-II (3-3 cr.)** Continuation of the elementary Persian level. Review of grammatical structures and vocabulary, reading, and translating short literary and expository texts.

**P565 Introduction to Persian Literature in English (3 cr.)** Covers development of Persian literature from its earliest stages in the tenth century A.D. to the present. Although the course covers a period of some 1,000 years, it does so in a way that seeks to provide background information for graduate students who may have an interest in Persian literature.

**N592 Directed Readings in Persian (1-6 cr.)** Readings in Persian or translated texts selected in accordance with the student's level and interests.

**N685 Persian Mystical Literature in Translation (3 cr.)** Examines the Persian literature of Islamic mysticism in English translation. Following an introduction to the history and doctrines of Sufism, the class will turn to detailed readings and discussions of works in several prose and poetic genres: hagiography, biography, allegorical epic, mystical lyric, and gnostic meditation.

**N692 Research in Classical Persian Texts (3 cr.) P:** P550 or reading knowledge of Persian. Intensive training in classical Persian. Emphasis on the accurate reading and translation of classical texts, their grammatical and stylistic features, and the use of modern and classical lexica. Survey of relevant bibliographic and secondary sources. Variable topic; may be repeated for credit.

### Other Iranian Languages

**P660 Middle Iranian Languages (3 cr.)** This course provides an introduction to the alphabets, grammar, vocabulary, and texts of various Iranian languages. It emphasizes reading, transcription, and translation. Religious, commercial, and political documents are examined. Variable topic; may be repeated for credit.

### Ottoman and Modern Turkish Language and Literature

**T500-T550 Elementary Turkish I-II (3-3 cr.)** This introductory course covers the basic grammar of modern Turkish, along with conversation, composition, reading, and translating from selected materials dealing with Turkish civilization.

**T600-T650 Intermediate Turkish I-I (3-3 cr.) P:** T500-T550. This course continues the work begun in Elementary Turkish. It emphasizes the review of grammatical structures and vocabulary, reading, and translating short literary and expository texts.

**T660-T670 Advanced Turkish I-II (3-3 cr.)** **N599 Directed Readings in Turkish (1-6 cr.)** In this course students will read and analyze

Turkish or translated texts selected in accordance with the student's level and interests.

**N600 Topics in Turkish Literature (3 cr.)** This course focuses on the reading and analysis of some of the most representative literary texts of Ottoman and Modern Turkey. Previous topics include "Literature of the Ottoman Court in Translation."

**N800 Seminar in Turkish Literature (3 cr.) P:** T650 or equivalent. The goals of this seminar are the following: 1) to provide graduate students of NELC majoring in Turkish literature with some of the most fundamental sources of Ottoman literary studies, 2) to introduce historical and contemporary scholarship on Ottoman upper-class literature, 3) to learn the major verse and prose forms of Ottoman literature, 4) to study the rhetorical structure of Ottoman poetry, and 5) to read the assigned passages in Ottoman focusing on the philological methods for Turkish Studies.

### General Courses

**N511 Foreign Study in Near Eastern Languages and Cultures (2-8 cr.)\***

**N545 Introduction to the Ancient Near East (3 cr.)** P: Introduces ancient Near Eastern cultures from early farmers around 8000 B.C. to the iron-age kingdom of the Babylonians, Assyrians, and Iranians. Places emphasis on agriculture, literacy, state formation, socio-political and religious institutions; legal and economic developments. Archaeological and textual information will be utilized in conjunction with visual aids.

**N565 Introduction to Islamic Civilization (3 cr.)** Covers basics of Islamic religion and literature in historical context. Topics include the life of Mohammad, Koranic and other teachings of Islam, conquests and caliphates, early successor states, law, sects, theology, philosophy, and the relationship between the state and religion.

**N625 Cultural History of the Ottoman Empire and Modern Turkey (3 cr.)** Students with little or no background in Turkish studies will be introduced to the rich and varied cultures of Turkey, from Ottoman times to the present.

**N640 Prophets, Poets, and Kings: Iranian Civilization (3 cr.)** Traces the culture, society, and beliefs within Iran from ancient times through the Muslim conquest until 1800. Focuses on politics, religions,

administrative/ social institutions, secular/ ecclesiastic relations, status of minorities, devotional/ communal changes, and Iranian influence on Islamic culture. Dynasties covered include Achaemenian through Safavid. Analysis of primary texts in translation.

**N650 Khomeini: The Roots of Revolution (3 cr.)** Examines the Iranian revolution using Khomeini as an organizing figure. Covers Shi'ism as a political force, the impact of the West on Iran, secularization, Shi'ite clergy as a class, and the conflict between Islamic and Iranian identity.

**N680 Islamic Philosophy (3 cr.)** Islamic philosophy, a link between classical and medieval European philosophy, has influenced the development of the western philosophical tradition. Its contributions to the philosophy of religion reflect its contemporary value today as a living tradition in Iran. The course will introduce the major philosophers, schools, and issues of Islamic philosophy.

**N695 Graduate Topics in Near Eastern Languages and Cultures (1-4 cr.)** Special readings in Near Eastern issues and problems within an interdisciplinary format. Variable topics; may be repeated under different topics for credit. Previous topics include, "Modern Middle East," "Texts and Authors," "Cultural History of Turkey," "Classical Arabic Rhetoric," and "Modern Persian Literature in Translation."

**N710 M.A. Thesis (cr. arr.)\***

**N720 M.A. Thesis (cr. arr.)\***

**N810 Ph.D. Thesis (cr. arr.)\***

## Neural Science

College of Arts and Sciences  
Bloomington

Director Professor George V. Rebec

Departmental e-mail: iuneuron@indiana.edu

Departmental URL: <http://www.indiana.edu/~neurosci>

## Graduate Faculty

Chancellors' Professor of Psychology  
George V. Rebec (Psychology)

Elinor Cox Riggs Professor of Social Sciences and Ethics Joseph E. Steinmetz (Psychology)

Professors Joseph Farley (Psychology), Gabriel Frommer (Psychology), David Koceja (Kinesiology), Dale Sengelab (Psychology), Alfred Strickholm (Emeritus, Physiology), Roderick Suthers (Physiology)

Associate Professors Preston Garraghy (Psychology), Jonathan Mills (Computer Science), Joseph Near (Pharmacology), Dolores Schroeder (Anatomy)

Assistant Professors Laura L. Murray\* (Speech and Hearing Sciences), Brian F. O'Donnell\* (Psychology), Julie Stout\* (Psychology), Cara Wellman (Psychology)\*

**Academic Advisor** Professor George V. Rebec, Psychology Building 361, (812) 855-7756  
**Degree Offered** Doctor of Philosophy

### Special Program Requirements

(See also general University Graduate School requirements.)

### Doctor of Philosophy Degree

The program leading to the Ph.D. degree is designed to give students the opportunity to develop the technical skills and conceptual framework necessary for a successful research career in neuroscience. Research should be viewed as the student's greatest challenge and the major focus of the student's energy. Training in behavioral or systems neuroscience is emphasized through research participation with core faculty in the Departments of Computer Science, Medical Sciences, Psychology, and Speech and Hearing Sciences. Students can also draw upon course offerings through the Center for the Integrative Study of Animal Behavior as well as the Departments of Biology, Chemistry, and Visual Sciences.

**Admission Requirements** Undergraduate education that includes an adequate background in chemistry, mathematics, and the biological and behavioral sciences. Students with undergraduate concentrations in other areas of the natural sciences, computer science, or engineering also are encouraged to apply. Preference will be given to applicants with a background in laboratory research and with strong letters of recommendation.

Applications must include a complete entrance form, letters of recommendation, undergraduate transcript, and scores on the Graduate Record Examination General Test. Students are admitted to the program only with the approval of the program graduate admissions committee.

**Course Requirements** A total of 90 credit hours, including dissertation. An individual program of study is planned for each student in consultation with the student's advisory committee. The aim is to provide each student with a solid background in neuroscience as well as the training necessary to supplement the student's particular research area. Course work consists of N500 or M555 and N501 (a one-year core sequence in neuroscience) which must be completed by the fifth semester of residence, and selections totaling at least 14 credit hours from offerings listed by the Program in Neural Science or cross-listed with other departments, divisions, or special programs. In addition, all doctoral students are required to complete annually N650, a

research seminar, beginning in their second year. Course work must be completed with an average of B+ (3.3) or above. No grades below B- (2.7) may be counted toward degree requirements.

**Advisory Committee** Chosen in consultation with the student, the student's research advisor, and the program director. The committee consists of at least three members of the Graduate Faculty who review the student's performance on a regular basis and provide feedback and guidance.

**Qualifying Examination** To remain in good standing and be admitted to doctoral candidacy, students must pass a written and oral examination before the end of their fifth semester in residence. Students failing the qualifying examination twice will be dismissed from the program.

**Final Examination** In addition to the oral defense of the dissertation before the research committee, a public research seminar is required.

**Ph.D. Minor in Neural Science** Students in other departments and programs who elect to minor in neural science must complete the N500-N501 core sequence and at least 6 credit hours of graduate course work selected from the offerings listed by the program or cross-listed with other departments. A grade of B (3.0) or better in each course is required.

### Courses

**N500 Neural Science I (4 cr.)** Basic introduction and current trends in cellular neurophysiology, neurocytology, synaptic processes, and neuroanatomy.  
**N501 Neural Science II (4 cr.)** P: N500. Continuation of Neural Science I emphasizing perception, cognition, and memory. Special emphasis will be placed on timely topics and topics of particular relevance to members of the class.

**N510 Cellular and Molecular Neuroscience (3 cr.)** Examines the properties and behavior of neurons and glia, the principal cells of the nervous system. The function of neural cells, the molecules involved in these functions, and the organization of molecular components required to generate cellular activity will be considered.

**N611 Neural Bases of Visual Sensation, Perception, and Cognition (3 cr.)** Basic neuroanatomy and neurophysiology of the visual system. Correlations will be made with current, biologically-based cognitive models of vision. The goal of this course is to integrate

neural and cognitive approaches to the problems of vision.

**N612 Ion Channels and Receptors (3 cr.)** P: graduate status and consent of instructor. Molecular, biophysical, and biochemical analysis of the major molecules responsible for neural excitability and synaptic transmission: receptor-coupled ion channels, voltage-dependent ion channels, G-protein coupled receptors, transporters, signal transduction pathways, synaptic vesicle-associated proteins, cytoskeletal proteins, classical and novel neurotransmitters and modulators.

**N613 Neural Mechanisms of Hearing (3 cr.)** P: graduate status and consent of instructor. Review of anatomy and physiology of inner ear and central auditory pathways. Special attention to current research on the neural basis of auditory discrimination.

**N650 Topical Seminar (3 cr.)** P: graduate status and consent of instructor. The topical seminar will vary each semester and will deal with a current problem in neurosciences.

**N700 Readings-Nervous System (cr. arr.)** Reading in special topics with guidance from a member of the faculty.

**N800 Research (cr. arr.)**

### Cross-Listed Courses

**Animal Behavior**

**A502 Research and Professional Ethics in Bio-Behavioral Sciences (1 cr.)**

**Cognitive Science**

**Q551 Brain and Cognition (3 cr.)**

**Computer Science**

**B644 Very Large Scale Integration (3 cr.)**

**B679 Topics in Scientific Computing (1-3 cr.)**  
(Analog VLSI and Neural Systems)

**School of Health, Physical Education, and Recreation**

**K542 Neuro Control of Movement (3 cr.)**

**K641 Topics in Motor Integration (3 cr.)**

**K690 Seminar in Human Performance (Topic: Motor Control) (1 cr.)**

**Medical Sciences**

**A464 Human Tissue Biology (4 cr.)**

**A610 Comparative Neuroanatomy (2 cr.)**

**F605 Principles of Pharmacology I (4 cr.)**

**F606 Principles of Pharmacology II (4 cr.)**

**M555 Medical Neuroscience (5 cr.)**

**P417 Neurobiology (3 cr.)**

**P418 Laboratory in Comparative Animal Physiology (2 cr.)**

**P421 Biophysical Principles in Physiology (3 or 5 cr.)**

**P510 Control Systems Theory in Biology (4 cr.)**

**P531 Human Physiology I (3 cr.)**

**P532 Human Physiology II (5 cr.)**

**P541 Advanced Physiology I: Neurophysiology (3 cr.)**

**P543 Neurophysiology Seminar (2 cr.)**

**P547 Topical Seminar in Physiology (1-5 cr.)**  
(Biophysics of Membrane Transport)

**P548 Neuroethology (2 cr.)**

**Psychology**

**P417 Animal Behavior (3 cr.)**

**P423 Human Neuropsychology (3 cr.)**

**P428 Laboratory in Comparative Psychology (3 cr.)**

**P436 Laboratory in Animal Learning and Motivation (3 cr.)**

**P514 Methods in Biopsychology (2 cr.)**

**P526 Neurobiology of Learning and Memory (3 cr.)**

**P527 Developmental Psychobiology (3 cr.)**

**P566 Psychophysiology of Vision (3 cr.)**

**P628 Psychophysiology of Somatic Functions (3 cr.)**

**P657 Topical Seminar (1-4 cr.)** (Check program brochure.)

**P667 Neuropsychopharmacology (3 cr.)**

**P669 Neurobiology of Behavioral Disorders (3 cr.)**

**Speech and Hearing Sciences**

**S501 Neural Bases of Speech and Language (3 cr.)**

**S515 Topical Seminar (2 cr.)** (Conditional)

**S545 Adult Cognitive-Communication Disorders (2 cr.)**

**Visual Sciences**

**V514 Neuroanatomy (2.5 cr.)**

**V648 Neurophysiology of Vision (1 cr.)**

**V767 Electrophysiology of Vision (3 cr.)**

**V785 The Vertebrate Eye (3 cr.)**

### Nursing Science

**School of Nursing  
Indianapolis**

**University Dean** Distinguished Professor  
Angela Barron McBride

**Associate Dean for Graduate Programs**  
Professor Linda M. Finkle

### Graduate Faculty

**Distinguished Professor** Angela Barron  
McBride

**Professors** Joan Austin, Constance Baker, Susan Bennett, Diane Billings, Penny S. Cass (K), Victoria D. Champion, Sharon Farley, Linda Finke, Daniel Pesut, Linda A. Rooda (NW), Phyllis Stern

**Associate Professors** Jane Backer,\* Mary Basolo-Kunzer\* (SB), Cheryl Bean,\* Janis Beckstrand, Donna Boland,\* Karen Cobb,\* Judith Csokasy,\* (K), Nancy Dayhoff, Eleanor Donnelly, Mary Fisher, Linda S. Gilman,\* Sharon Holmberg, Sara Horton-Deutsch,\* Marchusa Huff,\* Betsy Joyce, Juanita Keck, M. Jan Keffler,\* Joyce Krothe (B), Brenda Lyon, Rose Mays, Anna McDaniel, Wanda K. Mohr, Suzanne Morrissey,\* Nancy A. Myers,\* Deena Nardi (NW), Marian Pettengill (SB), Joanne Rains, Dixie Wiles Ray, Beverly Richards,\* Virginia Richardson, Nancy Schlappan\* (KO), Lee Schwecke,\* Sharon Sims, Lillian Stokes,\* Melinda Swenson, Linda D. Urden, Emid Zwirn\*

**Assistant Professors** Tamilyn Bakas,\* Anne Belcher,\* Jo Ann Brooks-Brumm, Janie Canty-Mitchell,\* Linda Delunas\* (NW), Teresa Dobrzykowsk\* (SB), Marsha Ellett, Pamela Jeffries,\* Beverly Linde,\* Joanne Martin,\* Marian A. McKay,\* Patricia Pierce (SB), Mary Beth Riner,\* Barbara Ross\* (C), Rebecca Sloan, Janet Welch\*

**Adjunct Professor** Theodore Peitti (Medicine)  
**Adjunct Assistant Professor** Eric Wright (Sociology)

**Clinical Associate Professor** Mary M. Rogge\*

**Clinical Assistant Professors** Connie Rowles,\* Cynthia Stone\*

**Senior Scientist** Betsy Fife

C after a faculty member's name indicates that the person teaches at the Columbus campus; E, at East; K, at Kokomo; NW, at Northwest; SB, at South Bend; and SE, at Southeast.

The Doctor of Philosophy (Ph.D. degree) is offered through the University Graduate School. In addition, the School of Nursing offers a Master of Nursing Science (M.S.N. degree). The Indiana University School of Nursing also offers dual degree programs with the School of Public and Environmental Affairs (SPEA) and the Center on Philanthropy. See the School of Nursing Graduate Program Bulletin.

**Special Departmental Requirements**  
(See also general University Graduate School requirements.)

**Doctor of Philosophy Degree**

The primary goal of the Doctor of Philosophy of Nursing Science Program at the Indiana University School of Nursing is the

preparation of scholars in the following fields of study: Environments for Health, Acute and Chronic Health Problems, Health Promotion, and Family Health Adaptation. Graduates will develop and disseminate to professionals and the public alike new knowledge related to these areas.

1. Environments for Health. Environments that influence health and the delivery of health care, both in traditional health care settings and in the community, are the focus of this area. Pertinent studies include factors in environments that influence the health of groups as well as studies of environments in which health care is delivered; the emphasis is on the system and how it affects individuals rather than on individuals per se.

2. Health Promotion. Nursing's core values involve a commitment to health promotion, disease prevention, and health restoration with an emphasis on facilitating the whole person and encouraging self-help. Research that builds on those beliefs and considers the relationship between physiological and behavioral aspects of health is the focus of this area. The emphasis is on nursing's role in helping individuals to monitor and improve their health and quality of life. Studies examine human behaviors related to health promotion, factors that influence health-seeking behaviors, and interventions that promote optimal health for individuals by influencing health behaviors.

3. Acute and Chronic Health Problems. Individuals who have an acute or chronic health problem often need intervention to facilitate the management of the specific problem. Intervention may focus on influencing the behavior of the patient as well as the caregiver, and toward that end, nurse researchers in this focus area examine human responses to acute and chronic health problems and the factors that influence these responses; individual and group factors that contribute to or influence the course of health problems; and effectiveness of the nursing therapeutics used in the care of persons with health problems.

4. Family Health Adaptation. Nursing's awareness of the facts that no one lives in isolation and that the person-environment fit is important forms the philosophical base for this focus area. All individuals live within a social system of significant others, and while the term "family" has evolved through the years and sometimes seems to defy universal definition, the notion of nurturing relationships—regardless of specific life stage or lifestyle—is central to human existence and plays a critical role in health promotion, maintenance, and

treatment. Research in this area explores the family dimensions of health and adaptation by focusing on "family" as the unit of care rather than on individuals in the context of family. These dimensions include family development, family definition of health, family access to health care, family support to sick individuals, and impact of health problems on the family.

**Admission Requirements** The following criteria will need to be met for consideration for admission:

1. Successful completion of a baccalaureate in nursing or a master of science in nursing from a program within a regionally accredited institution or higher education (Indiana University School of Nursing faculty retain the right to determine acceptable accreditation status of nursing programs from which applicants have graduated).
2. A baccalaureate cumulative grade point average of 3.0 or higher on a 4.0 scale. For applicants holding the master's degree, a graduate GPA of 3.5 or higher is required. (The master's degree GPA will supersede the undergraduate GPA.)
3. Completion of a three-credit statistics course with a grade of B (3.0) or higher within seven years before the date of proposed enrollment.
4. Ability to secure current registered nurse licensure in Indiana. Applicants whose program of study will not require contact with patients may be exempted from the licensure requirement by the IU School of Nursing's director of doctoral studies.
5. Competitive scores (600 or better) on the verbal, quantitative, and analytic sections of the Graduate Record Examination within the last five years.
6. Competitive scores (550 or better) on the Test of English as a Foreign Language (TOEFL) for students whose first language is not English. A test of written English is also required.
7. A two to three-page essay summarizing immediate and long-range professional goals and a proposed area of research. Evidence of the capacity for original scholarship and research in nursing, as demonstrated by reports, published and unpublished papers, or a thesis.
8. Three references, including at least one from a nurse faculty member who has knowledge of the applicant's academic ability from the undergraduate or master's work.
10. An interview with a member(s) of the Doctoral Studies Advisory Committee.

11. A letter of support from a nursing faculty member with Full Graduate Faculty status, who has agreed to be a research mentor.

**Course Requirements** The 90 credit hour curriculum includes the following four concentrations:

- I. Theory, Research, and Statistics (24 cr.)
- II. Nursing Science and Research (30 cr.)
- III. External Cognate Minor (12 cr.)
- IV. Dissertation (24 cr.)

Thirty credit hours of the 90 credit hour curriculum may be met by completed Master of Science course work.

## Courses

See the School of Nursing Graduate Bulletin for a complete list of offerings.

## Dual Degree Master of Science in Nursing and Master of Arts in Philanthropic Studies

While the M.S.N. with a major in Nursing Administration provides an essential background for the nurse executive, the addition of the M.A. in Philanthropic Studies adds an appreciation of the philanthropic tradition and the skills to become accomplished developmental officers.

Admission requirements for the combined degree program are identical to those for each program separately. Separate application must be made to each of the two programs. Students are expected to take responsibility for learning about and meeting the admission requirements of each school individually, which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Applicants should apply for the combined degree option before completing 21 hours in the M.S.N. in Nursing Administration program and before completing the core requirements or 18 hours of the M.A. in Philanthropic Studies. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 60 hours rather than the 78 credit hours that would be required if the two degrees were taken separately. Two of the required courses for the M.S.N. are used as electives to meet the Philanthropic Studies requirement of two electives. The P590 Internship required for the M.A. will meet the Administrative Practicum requirement for the M.S.N. The M.A. thesis or approved doctoral-level courses, plus one additional approved course fulfill the required M.S.N. focus concentration. Students can choose between

L671 or F512, and E514 in the M.A. program may be taken to meet the H514 requirement in the M.S.N. program.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

### Courses

See the School of Nursing Graduate Bulletin for a complete list of offerings.

## Nutrition and Dietetics

### Indianapolis

**Director** Clinical Professor Jacquelynn M. O'Palka\*

**Departmental URL:** <http://www.sahs.iupui/nutr/fnutradmitiupui/shtml>

### Graduate Faculty

**Professors** Mary Sue Brady\* Louise Irwin (Emerita), Karyl Rickard, Arlene Wilson (Emerita)

**Associate Professor** Judith Ernst\*

**Assistant Professor** Ada Van Ness (Emerita)  
**Graduate Advisor** Jacquelynn O'Palka, 114 Ball Residence, 1226 W. Michigan Street, Indianapolis, IN 46202-5180, (317) 278-0934, e-mail: jopalka@iupui.edu.

### Master of Science in Medical Sciences

The program is located at the Indiana University Medical Center in Indianapolis and utilizes facilities throughout central Indiana. The purpose of the program is to provide an opportunity for health care professionals to deepen their knowledge base and practice skills, particularly in the area of clinical nutrition. The curriculum is designed for the student who has a special interest in health promotion, the nutritional requirements and provision of nutrition therapy in acute and chronic conditions or in the care of special populations such as preterm infants. Program affiliations throughout central Indiana provide the opportunity for the student to work with patient populations in both outpatient and inpatient settings, as well as with the general public. Students may specialize in either adult or pediatric nutrition. This curriculum will not prepare the student to sit for the Registration Examination for Dietitians.

**Course Requirements** Students will be required to take graduate-level courses in biochemistry, statistics or biostatistics, and physiology. Other courses and clinical study (open only to students who are registered

dietitians) may be selected from the graduate-level offerings of the Nutrition and Dietetics Program and from other schools and departments on the Indiana University-Purdue University Indianapolis campus.

**Degree Requirements** Minimum Requirements for the Degree To earn the M.S. degree, a minimum of 37 credit hours (43 if the Pediatric Nutrition Fellowship is included) at the graduate level are required. Candidates for this degree may petition to apply up to 8 credit hours of graduate work from other institutions or programs to this degree. A thesis is required.

**Admissions** Applicants should have a bachelor's degree from an accredited college or university, a minimum grade point average of B (3.00 on a 4.00 scale) overall, an appropriate level of achievement on the Graduate Record Examination, a current health care practice credential or proof of completion of an undergraduate major in nutrition and dietetics and three letters of recommendation addressed to the Nutrition and Dietetics Program.

The applicant must submit a completed application form to the Office of Research and Graduate Studies, along with two copies of transcripts from all universities attended. Indiana University graduates should request that the Registrar's Office send unofficial copies of their transcript. Non-Indiana University graduates must submit at least one official transcript from each university attended. A current health care practice credential or proof of completion of an undergraduate major in nutrition and dietetics is required. A nonrefundable application fee is required.

Applications and further information may be obtained by writing to the following address:  
Office of Research and Graduate Studies  
School of Allied Health Sciences  
Indiana University-Purdue University  
Indianapolis

1140 W. Michigan Street  
Indianapolis, IN 46202-5119

**Grade Requirement** A minimum of a 3.00 (B) grade point average in graduate work is required for continuance in graduate study. When the grade point average of a student falls below 3.00 or the student is not making sufficient progress toward the degree, the Allied Health Graduate Studies Committee will review the student's record and recommend to the dean that the student be placed on probation. Unless the student achieves a 3.00 grade point average, or begins making satisfactory progress, in the next semester of enrollment, the student will not ordinarily be allowed to continue in the graduate program. For more information about academic regulations, contact the program director.

### Curriculum

**Allied Health (3 credits)**  
**AHLT W510 Trends and Issues in Allied Health**

**Basic Sciences (7 credits)**  
**BIOC B500 Biochemistry**  
**PHSL F503 Human Physiology**  
**Professional (12 credits)**  
**AHLT N550 Human Nutritional Pathophysiology I (required for all students)**

**Adult emphasis**  
**AHLT N552 Human Nutritional Pathophysiology II**

**Electives**  
**Pediatric emphasis**  
**AHLT N570 Pediatric Nutrition I**  
**AHLT N572 Advanced Pediatric Nutrition Elective**

**Research (15 credits)**

**Biostatistics**  
**AHLT W 520 Research Methodology in Allied Health**  
**AHLT W 570 Research Communications in Allied Health**  
**AHLT N598 Research in Nutrition & Dietetics Program**

**Total Minimum Credits: 37**

### Courses in Nutrition and Dietetics

"P" refers to a course prerequisite and "C" to a course that must be taken concurrently.

**AHLT N546 Medical Lectures (cr. arr.)**  
Lectures by professional staff and invited guests in the health care field.

**AHLT N550 Human Nutritional Pathophysiology I (3 cr.) P: B500, F503 or BIOL 557, or consent of instructor.** An integrated study of the biochemical and physiological aspects of human macronutrient metabolism with special reference to fundamental nutrition issues including determination of nutrient quality, nutrient interrelationships, and energy balance in the normal human adult and in common clinical problems.

**AHLT N552 Human Nutritional Pathophysiology II (3 cr.) P: AHLT N550 or consent of instructor.** A continuation of AHLT N550. An integrated study of the biochemical and physiological aspects of human fluid and micronutrient metabolism with special reference to nutritional pathophysiology involving fluid and micronutrient metabolism.

**AHLT N560 Review of Nutrition Standards (3 cr.)** Review of various nutrition standards including those of the United States, the United Kingdom, Canada, and the World Health Organization. Course includes a review of all cited literature for one of the nutrients listed in the Recommended Dietary Allowances.

**AHLT N570 Pediatric Nutrition I (3 cr.) P: B500, BIOL 557, undergraduate metabolic nutrition course, or consent of instructor.** An application of principles of physiology, biochemistry, and nutrition to the specialized nutrient needs and nutritional care of healthy infants, children, and adolescents and those with the most common pediatric conditions/illnesses or disorders of broad nutritional significance.

**AHLT N572 Advanced Pediatric Nutrition (3 cr.) P: AHLT N550, AHLT N570, or consent of instructor.** An application of principles of physiology, biochemistry, and nutrition to the specialized nutrient needs and nutritional care of infants, both preterm and term, and patients with complex pediatric conditions/illnesses that have a significant nutritional component.

**AHLT N591 Seminar in Nutrition and Dietetics (1 cr.)** Exploration of various topics and issues in nutrition. May be repeated for a maximum of 4 credits.

**AHLT N593 Topics in Nutrition (1-3 cr.) P: Consent of instructor.** Exploration of a selected topic in nutrition at an advanced level. May be repeated once for credit if topics differ.

**AHLT N595 Readings in Nutrition (1-3 cr.) P: Consent of instructor.** Individualized readings on topics not covered in regular course offerings.

**AHLT N596 Clinical Dietetics (cr. arr.)**  
Clinical study in specialized areas of dietetics. May be taken more than once with the consent of the department for a maximum of 15 credit hours.

**AHLT N598 Research in Dietetics (cr. arr.)**  
Original research as approved by the department.

## Pathology and Laboratory Medicine

School of Medicine  
Indianapolis

**Chairperson** John Eble

### Graduate Faculty

**Culbertson Professor of Pathology** John Pless

**Distinguished Professor** Bernardino Ghetti (Medical and Molecular Genetics, Neurobiology, Psychiatry)

**Nordischo Professor Emeritus of Laboratory Medicine** James Smith (Emeritus)

**Professors** Stephen Allen, Biagio Azzarelli, Nils Bang, Larry D. Bowers, Michael Clark\* (Pediatrics), Thomas E. Davis Jr., John Eble, Kenneth Fife (Microbiology and Immunology, Medicine), Roy Geib, Melvin Glick\* (Dean Hawley, M. E. Hodess (Medical and Molecular Genetics, Medicine), Meredith Hull\*, Richard Kohler\* (Medicine), Chao-Hung Lee, Diane Leland, Richard Neiman, Lawrence Roth, Kenneth Ryder, Aristotle Siakotos, Thomas Ulbright\*, Lawrence Wheat\* (Medicine), Moon Nahm Yum

**Associate Professors** John Baenziger\*, Constance Danielson\*, Randall Duncan (Medicine), Richard Gregory (Oral Microbiology), Patricia Kotylo, Vimal Kumar Patel\*, C. Pedro Piccardo\*, Lazaros Triarhou\*

**Assistant Professors** Liang Cheng,\* Jill Murrell,\* Carrie Phillips\*

**Graduate Advisor** Professor Diane Leland, Riley Hospital 0969, (317) 274-0148

**Degrees Offered** Master of Science in Pathology and Doctor of Philosophy

**Areas of Specialization** Specialization is available in various areas of anatomical, clinical, and experimental pathology. Areas of emphasis are neuropathology, experimental pathology, clinical chemistry, clinical microbiology, hematopathology, immunohematology, molecular pathology, and others. All M.S. and Ph.D. degree students choose one of these subspecialties for concentrated course work and thesis/dissertation research.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Applicants for the M.S. degree must have a bachelor's degree in medical technology, biochemistry, microbiology, or other biological science. Applicants for the Ph.D. degree must be medical students, have a doctoral degree in medicine, dentistry, or veterinary medicine, or have earned an M.S. or M.A. degree (with research thesis) in experimental pathology or related basic science. A completed application form, transcripts from all colleges attended, letters of recommendation, and scores on the Graduate Record Examination General Test and, ideally, one Subject Test must all be

received before an application will be considered. A minimum grade point average of 3.0 (B) in undergraduate science courses and an interview with the graduate program committee are required.

## Master of Science in Pathology Degree

**Course Requirements** Requirements vary, according to the area of emphasis.

**M.S. Degree in Pathology with Emphasis in an Area of Experimental Pathology** This course of study is recommended for students who plan to continue on to the Ph.D. after completing the M.S. degree. A minimum of 30 credit hours, including completion of a graduate-level general biochemistry course with a grade of C or higher and C808 Graduate Seminar; a maximum of 2 credits of C808 can be applied toward the required 21 credit hours of course work. Most students will also take C603 General Pathology. A grade of B or higher is required in C603 if the student plans to continue on to the Ph.D. At least 21 credit hours must be in courses other than research. At least 3 but not more than 9 credits must be in research.

**M.S. Degree in Pathology with Special Concentration in Pathology Laboratory Sciences** This course of study is recommended for students who do not plan to continue on to the Ph.D. after completing the M.S. degree. The M.S. with special concentration in one of the subspecialty areas of clinical pathology requires at least 30 credit hours but may require up to 40 credit hours or more, depending on the area of concentration, the background of the student, and the prerequisites needed for certain advanced courses. At least 3 but not more than 9 credit hours in research, a graduate-level biochemistry course, and C808 Graduate Seminar are required; a maximum of 2 credits of C808 can be applied toward the required 21 credit hours of course work. Development of each student's curriculum of lecture and laboratory courses and of research and teaching requirements will be a joint effort of the student and the graduate advisory committee. Course work differs, depending on whether the M.S. degree is to be focused in the areas of clinical chemistry, clinical microbiology, hematopathology, immunohematology, or other clinical laboratory specialty area.

**Thesis** Required. In special cases, published research may be substituted for the thesis. Consult the graduate advisor.

**Final Examination** Oral, on the thesis.

## Doctor of Philosophy Degree in Experimental Pathology

Only those students who are medical students, have a doctoral degree in medicine, dentistry, or veterinary medicine, or have already earned the M.S. or M.A. degree (research thesis) in experimental pathology or related basic science are eligible to apply for the Ph.D.; all others will be enrolled in a program leading to the M.S. degree.

**Course Requirements** A total of 90 credit hours, of which a minimum of 40 credit hours must be in courses other than research. Required courses include a graduate-level general biochemistry course, one additional graduate biochemistry or molecular biology course, C603 Pathology or equivalent, and C808; a maximum of 4 credits of C808 can be applied toward the required 40 credit hours of course work. Additional appropriate courses will be identified by the student's advisory committee and may be selected from core courses in the Department of Pathology and Laboratory Medicine or other graduate basic medical science departments. A minimum of 45 credit hours in dissertation research (C859) is required.

**Grades** Overall average of at least a B (3.0). A grade of C or higher in a graduate-level general biochemistry course and a grade of B or higher in C603 Pathology are required.

**Minor** At least 12 credit hours in a related discipline or in life science involving lecture/laboratory courses other than research. If a life sciences minor is approved, a minimum of 6 credit hours must be obtained in a single department.

**Foreign Language** Not required.

**Qualifying Examination** Written and oral, covering course work and research proposal.

**Research Proposal** Required (in form of a National Institutes of Health grant proposal); must be approved by student's advisory committee before completion of dissertation research.

**Dissertation** Required.

## Courses

**C603 General Pathology (6 cr.)** Basic concepts and principles of disease processes.

**C700 Clinical Chemistry I (3 cr.)** P: B500 or B800 or equivalent. Methodology,

instrumentation, and interpretation with clinical correlation of procedures in the clinical chemistry laboratory.

**C701 Clinical Chemistry II (2-3 cr.)** P: B500 or B800 or equivalent. Special clinical chemistry therapeutic drug monitoring and radioassay,

radioimmunoassay, and enzyme immunoassay.

**C800 Advanced Pathology (cr. arr.)** Subject material and credit hours arranged to conform to needs of student.

**C802 Advanced Morphologic Hematology (2 cr.)** P: consent of instructor. A graduate-level course with emphasis on diagnostic morphologic hematology. This course covers several aspects of morphologic hematology including erythrokinetics, myeloid and erythroid morphology, leukemia classification, myelodysplastic syndromes, myeloproliferative disorders, and newer concepts in diagnostic hematology.

**C803 Diagnostic Immunopathology (2 cr.)** P: basic undergraduate immunology and permission of instructor. Emphasis on immunobiology and diagnostic immunopathology. This course covers several aspects of immunopathology including autoimmune disease, transplantation biology, immunodeficiency disorders, and use of molecular diagnostics.

**C808 Graduate Seminar in Pathology (1 cr.)** One hour graduate-level seminar series with emphasis on experimental pathology. First-year graduate students present critical literature reviews of contemporary research topics. More advanced students present proposals and reports of their research. By permission of instructor.

**C820 Advances in Diagnostic Microbiology (3 cr.)** Discussions of infectious diseases and agents of infectious diseases including source, clinical manifestations, pathogenesis, epidemiology, treatment, and prevention and control, and the correlation of these subjects with laboratory diagnostic methods.

Contemporary subjects will be emphasized.

## C850 Cellular Structure of the Nervous System (3 cr.)

Cellular structure and ultrastructure of the C.N.S. in normal and experimental situations, including cell biology of neurons, astrocytes, oligodendroglia, brain macrophages, mast cells, brain vessels, and barriers. Organization of neural systems into global and point-to-point circuits; generative and regressive phenomena; and cerebral transplantation in neurodegenerative conditions.

**C858 Experimental Pathology (5 cr.)** Review and performance of selected experiments in pathology illustrating the types of pathologic processes.

**C859 Research in Pathology (cr. arr.)\*** Supervised initiation of a research project in pathology, and counseling in the completion of a thesis.

## C862 Basic Pathologic Techniques (5 cr.)

Methods of the histologic and chemical laboratories of pathology; principles of



examination used in the usual procedures of surgical and autopsy pathology.

**C875 Biochemical Pathology (3 cr.)** P: C603 or B800. A survey of biochemical pathology as demonstrated by recent advances in research in pathology. Selected topics for lecture and discussion will include aspects of tissue, cellular, subcellular, and molecular pathology.

**G556 Methods of Humane Animal Experimentation (1 cr.)** The purpose of this course is to provide graduate students entering careers in life science disciplines with the opportunity to obtain training in the proper care and humane use of laboratory animals. Federal regulations and considerations in the selection of animal models will also be discussed.

**G655 Research Communications Seminar (2 cr.)** Study of the methodological and systematic treatments of scientific data required for effective communication through written primary and secondary research publications; oral presentations, abstracts, post presentations, and grant proposals.

**G890 Methods in Molecular Biology and Pathology (3 cr.)** P: G865 or J838, and consent of instructor. Basic principles and techniques in molecular biology and pathology. Particular emphasis will be on molecular techniques that can be used to study problems related to biochemistry and pathology.

## Performance Studies

College of Arts and Sciences  
Bloomington

**Steering Committee** Distinguished Professor Richard Bauman (Anthropology, Folklore); Professor Roger Herzl (Theatre and Drama), Anya Peterson Royce (Anthropology), Ruth Stone (Folklore); Associate Professors Beverly Stoelje (Folklore), Timothy Wiles (English)

**Academic Advisor** Distinguished Professor Richard Bauman, 809 E Seventh St., (812) 855-6467

### Ph.D. Minor in Performance Studies

Interdisciplinary study of the theory and practice of performance, including aesthetic activity that is explicitly framed as performance (such as dance, theater, or music), as well as the performative dimensions of social life more generally.

**Course Requirements** One core course in theories of performance studies (P601) and three other courses representing at least two disciplines, one of which emphasizes the direct experience of performance. Students will choose these courses in consultation with an advisor from outside the student's discipline

who has been approved by the Performance Studies steering committee.

**Grades** Minimum of a B (3.0) in all courses to count toward the minor.

**Examination** None.

### Courses

**P600 Readings and Research in Performance Studies (1-3 cr.)** Guided reading and research in Performance Studies.

**P601 Proseminar in Performance Studies (3 cr.)** Interdisciplinary study of the theory and practice of performance, including aesthetic activity that is explicitly framed as performance (such as theater, music, dance), cultural performances and display events, and performance as a distinctive mode of communicative action.

### Folklore

**F750 Performance Studies (3 cr.)** Examination of performance-centered theory and analysis.

## Pharmacology and Toxicology

School of Medicine  
Indianapolis

**Chairperson** Showalter Professor Henry R. Besch Jr.

**Departmental e-mail:** [besch@indiana.edu](mailto:besch@indiana.edu)

**Departmental URL:** <http://www.iupui.edu/it/iuphtx/>

### Graduate Faculty

**Distinguished Professors** George Weber (Experimental Oncology), Douglas Zipes (Medicine)

**Showalter Professor** Henry R. Besch Jr. (Medicine)

**John B. Hickam Professor** D. Craig Brater (Medicine)

**Charles Fisch Professor** Larry Jones (Medicine)

**Paul Stark Professor** Michael R. Vasko (Anesthesia, Medicine)

**Professors** Charles Clark (Medicine), Leonard Erickson, Stephen Hall (Medicine), David Henry (Medicine), James Klaunig, Louis Lemberger (Emeritus, Medicine), Joseph DiMiccio, Sherry Queener, Judith Richter (Neurobiology), Shreepad Wagle (Emeritus), August Watanabe (Medicine), Lynn Willis (Medicine)

**Associate Professors** Lucinda Carr (Medicine), Victor Elharrar, Grant Nicol,

Anantha Shekhar (Psychiatry), Robert Wolen, Jian-Ting Zhang

**Assistant Professors** John Callaghan\* (Medicine), Jeffrey Travers\* (Dermatology)

**Assistant Scientists** Keshore Bidasee,\* Yansheng Du,\* Angela Evans,\* Lisa Kamendulis,\* Yong Xu\*

**Adjunct Professors** Marlene Cohen (Eli Lilly Research Laboratories), Phil Skolnick (Affiliate Member, Eli Lilly Research Laboratories)

**Adjunct Associate Professor** Pam Crowell\* (Biology), Thomas Jones (Affiliate Member, Eli Lilly Greenfield Laboratories)

**Visiting Professor** Ahmad Safa

**Director of Graduate Program** Associate Professor Victor Elharrar, Medical Science Building A507, (317) 274-1564; e-mail: [vellharr@iupui.edu](mailto:vellharr@iupui.edu)

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate grade point average should be well above 3.0 (B). Graduate Record Examination General Test is required for Ph.D.; highly recommended for M.S.

### PHARMACOLOGY PROGRAM<sup>1</sup>

**Degrees Offered** Master of Science and Doctor of Philosophy

### Master of Science Degree

**Course Requirements** A total of 36 credit hours, including courses in biochemistry, physiology and pharmacology, plus research.

**Thesis** Required. In special cases, published research may be substituted for the thesis. Consult the director of graduate studies.

**Final Examination** Oral or written or both.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation. At least 42 credit hours must be taken in the department, exclusive of research.

**Minor** Students generally minor in biochemistry or physiology. Students working toward an approved minor in life science should consult the department in planning their program.

<sup>1</sup>See also "Pharmacology" in the entry for the Medical Sciences Program, Bloomington, in this bulletin.

**Advisory Committee** An advisory committee is appointed when the student first registers for classes.

**Qualifying Examination** Written and oral, over concepts and research in pharmacology.

**Final Examination** Oral defense of dissertation.

### TOXICOLOGY PROGRAM

**Director of Toxicology Division** Professor James E. Klaunig, Medical Science Building 1021, (317) 274-7824; e-mail: [jklaunig@iupui.edu](mailto:jklaunig@iupui.edu)

**Degrees Offered** Master of Science and Doctor of Philosophy

### Master of Science Degree

**Course Requirements** A total of 30 credit hours, of which 15 credit hours must be taken in the department.

**Thesis** Required. In special cases, published research may be submitted for the thesis. Consult the director of graduate studies.

**Final Examination** Oral or written or both.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation. At least 42 credit hours must be taken in the department, exclusive of research.

**Minor** Students generally minor in pharmacology or pathology. Students working toward an approved minor in life sciences should consult the department in planning their program.

**Advisory Committee** An advisory committee is appointed when the student first registers for classes.

**Qualifying Examination** Written and oral, over concepts and research in toxicology.

**Final Examination** Oral defense of dissertation.

### Courses 1

**F598 Drugs, Diseases and Poisons (3 cr.)** P: a course in basic biology or physiology equivalent to K324 or BIOL 501. Introductory course in Pharmacology and Toxicology primarily for senior undergraduate students. The course provides an overview of the molecular basis of drug action and pharmacological properties of several of the major drug groups used in medical science.

**F602 Pharmacology: Lecture (5 cr.)** P: BIOC 8800, PHSL F613, F614. Mode of action of drugs as a basis for therapy.



**F803 Pharmacology: Laboratory (2 cr.)** Taught in conjunction with F602.

**F801 Introduction to Research in Pharmacology and Toxicology (1-3 cr.)** Application of basic laboratory methods to pharmacological problems. Consideration of theoretical principles, instrumentation, and applications.

**F802 Renal Pharmacology (3 cr.)** P: F602. Physiological and metabolic responses of the kidneys to various classifications of drugs.

**F804 Introduction to Pharmacology and Toxicology I (3 cr.)** This course will teach the fundamental principles of pharmacology and toxicology for the beginning graduate student, as an introduction to the discipline.

**F806 Cellular Pharmacodynamics (3 cr.)** P: BIOC 8810, PF765. The effects of drugs and hormones on intracellular systems and cellular metabolism will be examined to define mechanisms of drug action.

**F808 Myocardial Biology (3 cr.)** The cellular biology of muscle, with emphasis on the regulation of the internal ionic milieu and its effect on function of cardiac cells. The contractile proteins and the ion transport systems, Na<sup>+</sup>, K<sup>+</sup> -ATPase, sarcoplasmic reticulum, and mitochondria will be considered in detail.

**F809 Neuropharmacology (3 cr.)** P: F602 and BIOC 8835, or permission of instructor. Drugs which affect the nervous system, with particular emphasis on their central action. Although neurochemical effects will be stressed, evidence from neurophysiology and behavior will also be considered.

**F810 Pharmacology of Autonomic Cardiovascular Control: Central and Peripheral Mechanisms (3 cr.)** The physiology and pharmacology of sympathetic and parasympathetic nervous control of the cardiovascular system; pharmacology of synaptic mechanisms in peripheral and central pathways controlling autonomic outflow.

**F811 Concepts in Pharmacology (2 cr.)** The course will survey classic and recent literature that establishes current ideas and approaches to research topics in pharmacology. Basic concepts of various disciplines will be applied to pharmacology research.

**F812 Research in Toxicology (1-12 cr.)** Independent laboratory research to fulfill dissertation requirements for either a master's or a doctorate degree in toxicology. Students must be enrolled in graduate studies in the Department of Pharmacology and Toxicology to register for this course.

**F813 Clinical Pharmacokinetics (3 cr.)** Design and complete mathematical analysis of pharmacokinetic studies in humans. The clinical utility of pharmacokinetics will be

stressed, but the course will also have definite value for those involved with drug studies in animals.

**F814 Introduction to Pharmacology and Toxicology II (3 cr.)** P: F804. This course will expand on fundamental principles of pharmacology and toxicology, surveying recent advances in the field.

**F816 Clinical Toxicology (3-5 cr.)** P: F602. Signs and symptoms resulting from common poisons and drugs. Chemical analyses as aids in diagnosis.

**F817 Principles in Toxicology (3 cr.)** This course will teach basic concepts in toxicology such as mechanisms of cell injury, carcinogenesis, and effects of xenobiotics.

**F819 Chemical Carcinogenesis (3 cr.)** This course examines the biochemical and molecular mechanisms by which chemicals cause cancer. Emphasis will be on the uptake, metabolism, cellular targets and specific stage(s) of the cancer process that are affected by chemical carcinogens. Discussions will expand on the basic principles of carcinogenesis as they apply to the latest advances in the field.

**F820 Cancer Chemoprevention (3 cr.)** This course will examine the biochemical and molecular mechanisms of natural and synthetic cancer chemopreventive agents.

**F825 Research in Pharmacology (cr. arr.)\*** Independent laboratory research for fulfilling dissertation requirements.

**F826 Seminar in Toxicology (1 cr.)** Literature and research reports by students and staff.

**F830 Seminar in Pharmacology and Toxicology (1 cr.)** Literature and research reports by students and staff.

**F832 Drug-Protein Interactions (3 cr.)** Drug-protein interactions such as drugs modifying enzyme action, drugs acting at cell membrane receptors; drug binding to extracellular proteins. Emphasis is placed on measuring drug-protein interaction. Analysis of experimental design, calculation of sample data, and applications such as radio-immunoassays will be considered.

**F835 Molecular Mechanisms of Drug Action (3 cr.)** Biochemical mechanisms underlying drug actions and reactions including toxicologic effects of drugs will be covered, with emphasis on molecular mechanisms involving drug receptor interaction, the actions of drugs and hormones on regulatory mechanisms in various disease states.

**F836 Physiological Disposition of Drugs (3 cr.)** Factors affecting the absorption, distribution, metabolism, and excretion of drugs will be discussed in terms of environmental, biochemical, and physiochemical parameters. Pertinent

## Graduate Faculty

**Professors** John D. Barlow (Emeritus), English, German), Robert Bringle (Psychology), Dwight Burlingame, Edmund F. Byrne (Emeritus, Philosophy), William Cohen (History), Ulla Connor (English), Anne Donchin (Philosophy), Lawrence J. Friedman (History), Robert Greene (Social Work), Kirsten Gronbjerg (Public and Environmental Affairs), Roger Hamburg (Emeritus, Public and Environmental Affairs), Political Science), Robert Lehnen (Public and Environmental Affairs), Leslie Lenkowsky\* (Angela McBride (Nursing Science), Paul Nagy (Philosophy), Janet Near (Business), Robert L. Payton\* (Emeritus), James Perry (Public and Environmental Affairs), William Plater (English), James Riley (History), Mark Rosentraub (Public and Environmental Affairs), Herman Saatkamp (Philosophy, Medical and Molecular Genetics), William Schneider (History), Jan Shipps (Emeritus, Religious Studies), Richard Steinberg (Economics), Eugene R. Toppel (Education), Richard C. Turner\* (English), Brian Vargus (Political Science), James Wood (Emeritus, Sociology)

**Associate Professors** Wolfgang Bielefeld (Public and Environmental Affairs), Marc Bilodeau (Economics), Judith A. Chafel (Education), Karen Harlow\* (Public and Environmental Affairs), Debra Mesch (Public and Environmental Affairs), Kevin Robbins\* (History), Patrick Rooney\* (Economics), Mary Tschirhart (Public and Environmental Affairs), Mark Wilhem (Economics), Patricia Wittberg (Sociology)

**Assistant Professors** Richard Gunderman\* (Philosophy), Laura Huntoon (Public and Environmental Affairs), Elizabeth Kryder-Reid\* (Anthropology), David Reingold\* (Public and Environmental Affairs), Nancy Robertson\* (History), Andrea Walton\* (Education)

**Graduate Advisor** Professor Dwight Burlingame, Cavanaugh Hall 509E, (317) 274-8671

Philanthropic Studies at Indiana University is interdisciplinary, interprofessional, and systemwide. The field addresses voluntary contributions of service and funds, voluntary associations, and what has been called "the social history of the moral imagination." Areas of inquiry range from the history of philanthropy and philanthropy in literature to nonprofit management and legal issues. Undergraduate and graduate programs in various areas of philanthropic studies are available in the University Graduate School, the School of Liberal Arts at IUPUI, the School of Public and Environmental Affairs, and other schools at IUPUI and IU Bloomington.

## Philanthropic Studies

**Chair of Philanthropic Studies Faculty**  
Professor Debra Mesch

**Director of Center on Philanthropy** Eugene R. Toppel

**Departmental e-mail:** [maphil@iupui.edu](mailto:maphil@iupui.edu)

**Departmental URL:**  
<http://www.philanthropy.iupui.edu>

New courses and degree programs are developing rapidly. For up-to-date information, please contact the Philanthropic Studies Program.

**Degree Offered** Master of Arts (IUPUI). The Master of Arts in philanthropic studies focuses on the history, culture, and values of philanthropy. Its objectives are: to enable students to gain the knowledge and skills either to pursue further graduate study in relevant fields or to pursue careers in the independent sector or in related fields; to enable students to investigate the broader theoretical issues of philanthropy and of their chosen areas of specialization from a variety of disciplinary and interdisciplinary perspectives; and to utilize the interdisciplinary base to maintain a thoroughgoing critical inquiry into the historical and cultural implications of philanthropy.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** Requirements include a bachelor's degree from an accredited college or university, minimum 3.0 grade point average on a scale of 4.0, and a minimum 3.0 average in the student's major field. In addition, students seeking admission to the program should demonstrate an appropriate level of achievement on the Graduate Record Examination (or comparable proficiency test) and must arrange for three letters of recommendation to be addressed to the M.A. Program Admissions Committee.

Applicants who do not meet all of the requirements listed above may be admitted to the program on a provisional basis, in which case their status will be reviewed after a fixed period of time to determine whether they may continue in the program.

**Financial Aid** Several scholarships and research assistantships are available. Please contact the Philanthropic Studies Program for more information.

**Course Requirements** The M.A. in Philanthropic Studies requires a total of 36 credit hours. This will include 18 credits of core courses and 12 credits of elective courses. A minimum of 18 credit hours in core and elective courses combined must be in the School of Liberal Arts at IUPUI, and not more than 9 credit hours may be taken in courses numbered below 500. These 9 credits may come only from courses approved for University Graduate School credit. In addition, the student will earn 6 hours of credit either

for a thesis in a topic approved by the M.A. Program Advisory Committee or for doctoral-level courses (normally 700-level) in a discipline in which future study is planned; for the non-thesis option, at least one of the courses must be an approved research methods course. The approval process for the thesis or its alternative will normally take place after a student has successfully completed 15 credits of course work.

In order to earn the M.A. in philanthropic studies, students must maintain a 3.0 grade average on a scale of 4.0. Grades in courses counting for credit toward this degree may be no lower than C (2.0 on a scale of 4.0).

The 18 credits of core courses will normally include History H509 Special Topics in European History: History of Philanthropy in the West; or History H511 Special Topics in American History: History of American Philanthropy, Philosophy P542 The Ethics and Values of Philanthropy, Philanthropic Studies P512 Human and Financial Resources for Philanthropy, Philanthropic Studies P521 The Nonprofit and Voluntary Sector, Philanthropic Studies P523 Civil Society and Philanthropy, and Philanthropic Studies P590 Internship in Philanthropic Studies. In addition, students will take either Economics E514 The Nonprofit Economy and Public Policy or Education C595 Legal Aspects of Philanthropy and one of the following courses: American Studies P520 Philanthropy in American Culture, Anthropology A509 Cross-Cultural Dimensions of Philanthropy, Public and Environmental Affairs V524 Civil Society in Comparative Perspective, or Religion R590 Directed Readings in Religious Studies.

**Ph.D. Minor in Philanthropic Studies** Ph.D. students in other departments may, with the consent of their committee, minor in philanthropic studies. The minor will enable the student to take an organized body of courses focusing on the history, culture, and values of philanthropy, defined broadly as "voluntary action for the public good."

The director of graduate studies in philanthropic studies will recommend a member of the faculty to serve as an advisor. Four courses are required to be taken from an approved list and in consultation with the advisor. With written approval from the director of graduate studies in philanthropic studies, courses other than those listed may also be accepted to fulfill degree requirements. Because the subject of philanthropy is inherently interdisciplinary, no more than two courses may be taken in any one department.

The minor requires that the 12 credit hours of approved course work, including P521, be completed with a grade of B (3.0) or higher in

each course. No more than six credit hours of course work may be transferred from another university and applied toward this requirement, and such credit must be approved by the director of graduate studies in philanthropic studies. To arrange for a philanthropic studies minor, students should contact the director of graduate studies in philanthropic studies.

### Master of Arts Degree in Philanthropic Studies: Executive Format

Many students interested in the M.A. program are unable to attend on a traditional residential basis because of their distance from Indianapolis and ongoing job responsibilities. To provide access to the M.A. in Philanthropic Studies at Indiana University for this growing constituency, the executive format master's program admitted its inaugural cohort of students in 1996.

A participant in the executive format master's program can finish the requirements for the degree in either two or three years by completing:

- An orientation before the first day of classes;
- Six intense one-week sessions of residential study at IUPUI (three per summer for those selecting the two-year option or two per summer for those selecting the three-year option);
- Distance education and directed off-site course work; and
- Elective study at a qualified institution near the student's home.

Each summer course requires one week of intense on-campus study and is preceded by a pre-residential period of approximately six weeks in length which includes preparatory reading and assignments. Each session is followed by a post-residential period which includes evaluative experiences to be completed at home. During both the pre-residential and post-residential periods, faculty work with students by using telephone, e-mail, fax, and postal service.

Degree requirements for the executive M.A. program are the same as the requirements for the residential M.A. in philanthropic studies.

Applicants for the executive program must meet the same admission criteria as those applying for the residential program, with the addition of three to five years of work experience in the nonprofit sector being recommended. Deadline dates for admission are January 1 for non-U.S. citizens and February 1 for U.S. citizens.

For more information, contact the Center on Philanthropy, (317) 274-4200.

### Dual Degree Master of Arts in Philanthropic Studies and Master of Arts in Economics

The dual master's degree in philanthropic studies and economics substantially benefits students intending to pursue a career in independent research, academia, or practice. Normally, those pursuing a career in research or academia continue in a Ph.D. program in economics, finance, accounting, management, marketing, or public policy. Very few doctoral programs include substantial content on philanthropy or nonprofit organizations. As such, the M.A. in philanthropic studies provides a broad interdisciplinary background that makes the future researcher sensitive to the institutional details, values, and history of the sector, thus leading to better research. For the future nonprofit manager or leader, economics provides the principles and methodologies to make informed decisions on the appreciative level, the policy level, and the managerial level.

Admission requirements for the dual degree program are identical to those for each program separately. Separate application must be made to each of the two programs. Students are expected to take responsibility for learning about and meeting the admission requirements of each school individually which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 51 credit hours rather than the 66 credit hours that would be required if the two degrees were taken separately. Two of the required core courses for the M.A. in

Economics may be selected as electives to meet the Philanthropic Studies requirement for two applied electives. One of the required Philanthropic Studies courses, Economics E514, The Nonprofit Economy and Public Policy, may be taken to meet 3 of the 12 credit hours of electives required in the economics program. A common thesis meets the requirements of both departments.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

### Dual Degree Master of Arts in Philanthropic Studies and Master of Arts in History

The M.A. in Philanthropic Studies and History, an interdisciplinary dual-degree program,

creates a unique opportunity to pursue critical inquiry into the historical, cultural, philosophical, and economic implications of voluntary action for the public good.

Historians routinely study the role of nonprofit organizations, self-help groups, and philanthropic institutions. This degree will be attractive to students wishing to pursue (1) careers that demand the skills and talents developed by cross-training in history and philanthropy; or (2) doctoral programs that encourage new and creative approaches to the historical study of philanthropy, broadly defined.

Admission requirements for the dual degree program are identical to those for each program separately. A separate application must be made to each of the programs.

Prospective students are expected to take responsibility for learning about meeting the differing admission requirements and deadlines of each department. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis topic.

Study for the two degrees can be combined for a total of 51 credit hours (U.S. or European History concentrations) or 54 credit hours (Public History) rather than the 66 or 72 credit hours that would be required if the two degrees were taken separately. For all concentrations, the required 700-level seminar for the M.A. in history may be selected as an elective to meet the philanthropic studies requirement for one of two theoretical electives. The required philanthropic studies course History H509 History of Philanthropy in the West may be taken to meet the history requirement for a history elective. Required courses Philosophy P542 Ethics and Values of Philanthropy or Philanthropic Studies P512 Human and Financial Resources for Philanthropy may be taken to meet three of the six credits of outside electives that may be taken in the history program. For public history students, History H543 Practicum meets the requirement for Philanthropic Studies P590 Internship, for the Philanthropic Studies program. A common thesis meets the requirements of both departments.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

**Dual Degree Master of Arts in Philanthropic Studies and Master of Public Affairs in Nonprofit Management**

The continual blurring of sectors and the call for government devolution demand that advanced education for public managers must

address critical issues associated with the relationship between and the functions of nonprofit and government agencies. The combined degree in public affairs and philanthropic studies provides an education with breadth and depth. Students in this combined degree program have the opportunity to pursue critical inquiry into the "how" and the "why" of nonprofit management and philanthropy. As a result they are better prepared to be "reflective practitioners."

Admission requirements for the combined degree program are identical to those for each program separately. Separate application must be made to each of the two programs and students should take responsibility to learn about and meet the admission requirements of each school individually which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Applicants should apply for the combined degree option before completing the core requirements or 33 credit hours of the M.P.A. with a Nonprofit Management Concentration and before completing the core requirements or 18 hours of the M.A. in Philanthropic Studies. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 60 or 63 credit hours rather than the 87 or 90 credit hours that would be required if the two degrees were taken separately. The dual degree curriculum requires 21 credits of core courses in nonprofit management, 15 credit hours of philanthropic studies core courses, Philanthropic Studies P521 (or SPEA V521), Public and Environmental Affairs, V525 Management in the Nonprofit Sector, two nonprofit application courses, one general management course, and one theoretical elective in philanthropic studies. Philanthropic Studies P590 Internship in Philanthropic Studies meets the experiential requirement for the M.P.A. Finally, students are required to complete a thesis on an approved topic by their thesis committee or 6 credits of doctoral-level work approved by their graduate advisor.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

**Dual Degree Master of Arts in Philanthropic Studies and Master of Science in Nursing**

While the M.S.N. with a major in Nursing Administration provides an essential background for the nurse executive, the

addition of the M.A. in Philanthropic Studies adds an appreciation of the philanthropic tradition and the skills to become accomplished developmental officers.

Admission requirements for the combined degree program are identical to those for each program separately. Separate application must be made to each of the two programs. Students are expected to take responsibility for learning about and meeting the admission requirements of each school individually which may differ from each other in application documents required, minimal standards of criteria for admission, and deadline dates. Applicants should apply for the combined degree option before completing 21 hours in the M.S.N. in Nursing Administration program and before completing the core requirements or 18 hours of the M.A. in Philanthropic Studies. Students must make plans early with advisors in both programs to identify (1) common courses and (2) thesis credit.

Study for the two degrees can be combined for a total of 60 hours rather than the 78 credit hours that would be required if the two degrees were taken separately. Two of the required courses for the M.S.N. are used as electives to meet the Philanthropic Studies requirement of two electives. The P590 Internship required for the M.A. will meet the Administrative Practicum requirement for the M.S.N. The M.A. thesis or approved doctoral-level courses, plus one additional approved course fulfill the required M.S.N. focus concentration. Students can choose between L671 or P512, and E514 in the M.A. program may be taken to meet the H514 requirement in the M.S.N. program.

Further information regarding regulations governing advanced degree programs may be obtained from the respective departments.

For more information, contact the Center on Philanthropy, (317) 274-4200.

## Courses

**P501-P502 The Philanthropic Tradition I-II (3-3 cr.)** These interdisciplinary courses will examine the core values of philanthropy and the principal patterns of philanthropic behavior and organization with particular emphasis on the Western tradition and the American adaptation of it. Permission of the instructor required.

**P512 Human and Financial Resources for Philanthropy (3 cr.)** This course is designed to familiarize beginning graduate students with the three major areas subsumed under resources of the independent sector: volunteers, grantmaking, and financial resources obtained through a fundraising

program. The course will be divided into four parts to include the theoretical framework for the sector; government, corporate, and foundation resources; charitable donations by individuals; and volunteer management.

**P521 The Nonprofit and Voluntary Sector (3 cr.)** The theory, size, scope and functions of the nonprofit and voluntary sector are covered from multiple disciplinary perspectives including historical, political, economic and social. Same as SPEA V521.

**P523 Civil Society and Philanthropy (3 cr.)** The course explores the relationship of civil society to the state, how the nonprofit sector affects the state and how the state regulates the sector. A continuing theme will be how and whether the state and philanthropic institutions make investments in strengthening civil society.

**P530 Topics in Philanthropic Studies (3 cr.)** In-depth study of selected topics and issues in philanthropic studies. Specific topics vary from semester to semester. Course may be repeated once for credit, provided that the topic is different. Variable title approval requested.

**P555 Readings in Philanthropic Studies (1-4 cr.)** A tutorial course involving in-depth study and analysis of a specific topic in philanthropic studies, by arrangement with instructor. Permission of director required.

**P590 Internship in Philanthropic Studies (3 cr.)** A course for the advanced student of philanthropy. Students work 10 hours per week for a voluntary association, applying knowledge gained in earlier courses to practical situations. Requirements include a journal and a substantial term paper.

**P600 M.A. Thesis in Philanthropic Studies (3-6 cr.)**

**P690 Research in Philanthropic Studies (3 cr.)** P: one semester of M.A. course work. Students will research specialized topics related to philanthropic studies agreed upon with the instructor from and in their chosen disciplinary perspective. In some instances, team research may be carried out. The course may be repeated once with approval by the chair of philanthropic studies.

## Cross-Listed Courses

The seminars and colloquia listed below often treat topics relevant to the Philanthropic Studies Program. In addition, new courses are being developed. Please see the graduate advisor for information about current offerings.

**American Studies**

**G751 Seminar in American Studies (3-4 cr.)**

**P520 Philanthropy in American Culture (3 cr.)**

# Philosophy

of graduate credits so acquired does not exceed 9 credit hours. Upon admission, a graduate major in philosophy will be assigned a departmental faculty advisor who, in conjunction with the director of graduate studies, will help plan the student's program of studies.

## Master of Arts Degree

**Course Requirements** A total of 30 credit hours, at least 20 credit hours of which must be in philosophy. These must include at least one course in each of four subject areas: history of philosophy, metaphysics and epistemology, logic, and value theory.

**Grades** A minimum grade of B (3.0) is required in each course that counts toward the degree.

**Language/Thesis Requirements** The student must either demonstrate reading proficiency in classical Greek, French, German, or Latin, or write an acceptable thesis. Up to 6 hours of thesis credit may be applied to the course requirements and may be counted in the 20 credit hours of philosophy.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation (minimum of 30 credit hours).

**Grades** A minimum grade point average of 3.0 (B) is required of work that counts toward the degree.

**Foreign Language Requirement** Reading proficiency in one of the following: classical Greek, French, German, Latin. Languages not on this list may, when appropriate, be substituted. Any substitution requires the approval of the director of graduate studies. Also, some specializations will require additional foreign languages.

**First-Year Course** Each fall semester, one graduate course is designated as a required course for all incoming graduate students. An aim of this course is to convey a sense of the depth of research and the level of writing needed for success in the graduate program. Satisfactory completion of this course is required. This course can be counted toward the student's nine units of distribution requirements.

**Distribution and Specialization** Specific requirements vary across subject areas, but generally the distribution requirements can be satisfied by taking two courses each in metaphysics and epistemology, logic, and value theory, and three courses in the history of philosophy. Generally, specialization requirements can be

**Anthropology**  
A509 Cross-Cultural Dimensions of Philanthropy (3 cr.)

**Economics**  
E514 The Nonprofit Economy and Public Policy (3 cr.)

**Education**  
C585 Principles of Fund raising Management (3 cr.)

C595 Legal Aspects of Philanthropy (3 cr.)

C654 Higher Education in the U.S. (3 cr.)

C750 Topical Seminar (1-6 cr.)

H637 Topical Seminar (3 cr.)

**English**  
L680 Topics: Philanthropy and Literature (4 cr.)

**History**  
H509 Special Topics in European History: History of Philanthropy in the West (3 cr.)

H511 Special Topics in American History: History of American Philanthropy (3 cr.)

H650 Colloquium in United States History (4 cr.)

**Journalism**  
J528 Public Relations Management (3 cr.)  
J529 Public Relations Campaigns (3 cr.)

**Nursing**  
J595 Action Research and Community Health Policy (3 cr.)

**Philosophy**  
P542 The Ethics and Values of Philanthropy (3 cr.)

**Religious Studies**  
R770 Social Ethics (3 cr.)

**School of Public and Environmental Affairs (SPEA)**  
V521 The Nonprofit and Voluntary Sector (3 cr.)

V522 Human Resource Management in Nonprofit Organizations (3 cr.)

V523 Civil Society and Public Policy in the United States (3 cr.)

V524 Civil Society in Comparative Perspective (3 cr.)

V525 Nonprofit Management for Nonprofit Organizations (3 cr.)

V550 Topics in Public Affairs (1-3 cr.)

**Sociology**  
S613 Complex Organizations (3 cr.)

of graduate credits so acquired does not exceed 9 credit hours. Upon admission, a graduate major in philosophy will be assigned a departmental faculty advisor who, in conjunction with the director of graduate studies, will help plan the student's program of studies.

## Master of Arts Degree

**Course Requirements** A total of 30 credit hours, at least 20 credit hours of which must be in philosophy. These must include at least one course in each of four subject areas: history of philosophy, metaphysics and epistemology, logic, and value theory.

**Grades** A minimum grade of B (3.0) is required in each course that counts toward the degree.

**Language/Thesis Requirements** The student must either demonstrate reading proficiency in classical Greek, French, German, or Latin, or write an acceptable thesis. Up to 6 hours of thesis credit may be applied to the course requirements and may be counted in the 20 credit hours of philosophy.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation (minimum of 30 credit hours).

**Grades** A minimum grade point average of 3.0 (B) is required of work that counts toward the degree.

**Foreign Language Requirement** Reading proficiency in one of the following: classical Greek, French, German, Latin. Languages not on this list may, when appropriate, be substituted. Any substitution requires the approval of the director of graduate studies. Also, some specializations will require additional foreign languages.

**First-Year Course** Each fall semester, one graduate course is designated as a required course for all incoming graduate students. An aim of this course is to convey a sense of the depth of research and the level of writing needed for success in the graduate program. Satisfactory completion of this course is required. This course can be counted toward the student's nine units of distribution requirements.

**Distribution and Specialization** Specific requirements vary across subject areas, but generally the distribution requirements can be satisfied by taking two courses each in metaphysics and epistemology, logic, and value theory, and three courses in the history of philosophy. Generally, specialization requirements can be

satisfied by taking a total of four courses in one of these areas. Distribution requirements are normally satisfied by the end of the student's second year, and specialization requirements by the end of the third year. Students who are taking extensive course work (18 credit hours or more) in another department outside of philosophy can apply for exemption from two of the nine distribution units. For more details on the distribution and specialization requirements, see the document *IU Department of Philosophy-Ph.D. Requirements*, obtainable from the department office.

**Qualifying Exam** An essay, together with an oral exam, on a topic that the student plans to pursue further in the dissertation. The qualifying exam will test whether the student is ready to write a dissertation on the chosen topic. Students who have passed the qualifying exam and have satisfied the course and language requirements are ready to be nominated for candidacy. The qualifying exam should normally be taken by the end of three- and-one-half years of graduate study. Students who have not been admitted to candidacy by the beginning of their sixth year will be dropped from the program.

**Dissertation Prospectus** A one- or two-page plan of the proposed dissertation that is submitted to the graduate school after it has been approved by the dissertation committee.

**Dissertation Chapter Exam** A long essay (about 25 pages long) on the dissertation topic, with an optional oral component. The dissertation chapter exam should be taken within one year of passing the qualifying exam.

**Ph.D. Minor in Philosophy** Doctoral students outside the department may minor in philosophy by completing 12 credit hours of graduate-level philosophy courses with a B (3.0) average or better. No more than 9 credit hours may be taken as P590. The program must be approved by the director of graduate studies of the Department of Philosophy. Students planning to take P590 as part of their program must, in addition, obtain consent to do so from the instructor of that course.

**Ph.D. Minor and Certificate in Logic** The Philosophy Department participates in the Program in Pure and Applied Logic, along with the Departments of Computer Science, Linguistics, and Mathematics. For details of the requirements for the Logic Minor and the Logic Certificate, see the booklet *IU Program in Pure and Applied Logic*, available in the departmental office, Sycamore 026.

Philosophy Ph.D. students may minor in logic, provided that no courses are double-counted for major and minor, at least three of the minor courses are taken outside the Department of Philosophy, and the courses constituting the minor are approved by the Philosophy Logic Area Committee.

### Courses Offered

The following courses, which are drawn from the complete list below, are expected to be offered on the Bloomington campus during the academic years 2000-2002. Consult the *Schedule of Classes* for a listing of the courses to be offered each semester.

P350	P530	P550	P597
P351	P531	P551	P710
P505	P532	P552	P720
P506	P535	P560	P730
P511	P540	P561	P740
P512	P541	P562	P743
P515	P543	P570	P750
P520	P544	P571	P751
P522	P545	P595	P760
P526	P546	P596	

### Courses

#### History of Philosophy

**P511 Plato (3 cr.)**

**P512 Aristotle (3 cr.)**

**P522 Topics in the History of Modern Philosophy (3 cr.)** Selected topics from the philosophies of one or more of the following:

Continental rationalists (Descartes, Spinoza, Leibniz), British empiricists (Locke, Berkeley, Hume), and Kant. May be repeated twice with consent of instructor(s).

**P526 Nineteenth-Century Philosophy (3 cr.)** Selected topics as announced.

**P530 Twentieth-Century Analytic Philosophy I (3 cr.)** Nineteenth-century British idealism, early Russell, and Moore.

**P531 Twentieth-Century Analytic Philosophy II (3 cr.)** Logical atomism and logical positivism.

**P532 Twentieth-Century Analytic Philosophy III (3 cr.)** Trends in recent analytic philosophy.

**P535 Phenomenology and Existentialism (3 cr.)** Selected topics as announced.

**P595 Intensive Reading: Ancient Philosophy from the Greek or Latin Texts (cr. arr.)**

Substantive philosophical topics investigated directly from Greek or Latin texts. Reading knowledge of ancient Latin or Greek required. May be repeated for credit.

**P596 Intensive Reading: Medieval Philosophy from the Sources (cr. arr.)** Substantive philosophical topics investigated directly from Latin or Hebrew texts. Reading

knowledge of medieval Latin or Hebrew required. May be repeated for credit.

**P597 Intensive Reading: Modern Philosophy from the Sources (cr. arr.)** Substantive philosophical topics investigated directly from modern foreign-language texts. Reading knowledge of language or languages involved is required. May be repeated for credit.

**P710 Seminar: Topics in History of Philosophy (4 cr.)** Selected topics from ancient, medieval, or modern philosophy. May be repeated.

**P748 Seminar in American Philosophy (3 cr.)** Advanced study of a principal philosopher or a set of selected topics in classical American philosophy.

#### Special Topics

**P520 Philosophy of Language (3 cr.)**

Advanced study of selected topics.

**P546 Philosophy of Art (3 cr.)** In-depth discussion of contemporary aesthetic theories.

**P561 Philosophy of Mind (3 cr.)** In-depth discussion of representative contemporary theories.

**P570 Philosophical Psychology (3 cr.)**

**P720 Seminar: Philosophy of Language (4 cr.)** Advanced topics in the philosophy of language, e.g., reference, meaning of truth, nature of language.

#### Ethics

**P540 Contemporary Ethical Theories (3 cr.)** Fundamental problems of ethics in contemporary analytic philosophy from G.E. Moore's *Principia Ethica* to present.

**P541 Selected Topics in the History of Ethics (3 cr.)** Selected topics in the history of ethics, ancient, medieval, or modern.

**P542 The Ethics and Values of Philanthropy (3 cr.)** An inquiry into the ethics and values of philanthropy rooted in a general understanding of philanthropy, as voluntary action for the public good, as an ethical ideal. A consideration of philanthropic activity in light of the ideal.

**P694 Biomedical Ethics (3 cr.)** A rigorous examination of bioethical theory and practice. Stress is placed on moral and conceptual issues embedded in biomedical research, clinical practice, and social policy relating to the organization and delivery of health care.

**P740 Seminar: Ethical Theory (4 cr.)** Selected topics in ethical theory.

#### Social and Political Philosophy

**P543 Contemporary Social and Political Philosophy (3 cr.)**

**P544 Selected Topics in History of Social and Political Philosophy (3 cr.)** Selected topics in the history of social and political philosophy, ancient, medieval, or modern.

**P743 Seminar: Social and Political Theory (4 cr.)** Selected topics in social and political theory.

#### Philosophy of Law

**P545 Legal Philosophy (3 cr.)** An introduction to major legal philosophers and fundamental legal philosophical questions.

#### Logic

**P350 Logic of Sets (3 cr.)**

**P351 Formal Semantics (3 cr.)**

**P505 Logical Theory I (3 cr.)** P: P250 or equivalent. A survey of modern logic consisting of syntactic and semantic (proof-theoretic and model-theoretic) treatments of the propositional and predicate calculi.

**P506 Logical Theory II (3 cr.)** P: P505 or equivalent. A survey of central metatheoretic topics in modern logic with special emphasis on (a) model theory and first-order completeness, (b) incompleteness and undecidability results of Gödel and Church, and (c) recursive function theory.

**P550 Systems of Modal Logic (3 cr.)** P: P251 or consent of instructor. Formal semantical and syntactical analysis of modal concepts, including temporal, deontic, epistemic, and general pragmatic modalities.

**P551 Philosophy and Foundations of Mathematics (3 cr.)** P: P251 or consent of instructor. R: P350. Philosophical and formal investigations on the foundations of mathematics. Examination of logicism, on the nature of mathematics, mathematical entities, and mathematical truth. Gödel's incompleteness theorem and its philosophical significance.

**P552 Philosophy of Logic (3 cr.)** P: P251 or consent of instructor. Philosophical issues on the nature of logic, alternative logics, the ontological commitments of logic, the analytic-synthetic dichotomy, the analysis of logical truth, etc. History of logic.

**P750 Seminar: Logical Theory (4 cr.)** Selected problems in the interpretation and application of logical systems. Such topics and model theory, nonstandard logics, and theory of meaning will be discussed.

**P751 Seminar: Logic (4 cr.)** Selected topics in advanced logic, e.g., set theory, recursive function theory, foundations of mathematics.

#### Metaphysics

**P560 Metaphysics (3 cr.)** In-depth discussion of representative contemporary theories.

**P571 Philosophy of Nature (3 cr.)** In-depth study of representative contemporary theories of space, time, causality, action, dispositions, and particulars.

**P760 Seminar: Metaphysics and Epistemology (4 cr.)** Advanced topics in metaphysics or epistemology or both.

#### Theory of Knowledge

**P562 Theory of Knowledge (3 cr.)** Twentieth-Century Developments

**P730 Seminar: Contemporary Philosophy (4 cr.)** Selected topics on the works of twentieth-century philosophers.

#### Philosophers of Science

(Available from the Department of History and Philosophy of Science)

**X456 Historical Development of Philosophy of Science (3 cr.)**

**X551-X552 Survey of the Philosophy of Science I-II (3-3 cr.)**

**X571 Research Topics in the Philosophy of Science (1-3 cr.)**

**X600 Advanced Readings Course (cr. arr.)\***

**X654 Seminar: Philosophy of the Social Sciences (4 cr.)**

**X683 Philosophical Problems of Quantum Mechanics (4 cr.)**

**X691 Seminar: Philosophical Problems of Space and Time (4 cr.)**

**X692 Seminar: Foundations of Scientific Inference (4 cr.)**

**X755 Special Topics in the Philosophy of Science (2-5 cr.)**

**X756 Special Topics in the Philosophy of Science (2-5 cr.)**

#### Special Research

**P590 Intensive Reading (1-3 cr.)** A tutorial course involving in-depth consideration of a specific philosophical area of problem or author. May be repeated for credit.

**P803 Master's Thesis in Philosophy (cr. arr.)\***

**P805 Doctor's Thesis in Philosophy (cr. arr.)\***

#### INDIANAPOLIS PROGRAM

School of Liberal Arts

Chairperson Professor Paul Nagy

#### Graduate Faculty

**Professors** Michael Burke, Edmund Byrne (Emeritus), Anne Donchin, Nathan Houser, Laurence Lampert, Paul Nagy, Herman Saatkamp, Jr.,

**Associate Professors** Ursula Niklas, John Tilley

**Assistant Professors** Andre De Tienne,\* Richard Gunderman\*

**Degree Offered** Ph.D. Minor

The primary objective of the Ph.D. minor in philosophy is to enable students in professional-related doctoral programs to gain structured philosophical perspective on problems and issues in their field of study. An ancillary objective is to have graduate-level philosophy courses available to other graduate students on this campus, especially those in master's degree programs.

The Ph.D. minor is presently being revised and rethought. Also being considered is an M.A. degree, with an emphasis in American philosophy. For more information about these programs contact either the Department Advisor, Ursula Niklas ( (317) 274-2667, Cavanaugh 333B) or the Philosophy Department Office (317) 274-8082, Cavanaugh 331).

## Physics

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Steven Vigdor

**Departmental e-mail:** gradphys@indiana.edu

**Departmental URL:** <http://physics.indiana.edu>

### Graduate Faculty

**Distinguished Professors** Steven Girvin, Gail Hanson, Allan MacDonald, Roger Newton (Emeritus), Robert Pollock

**Professors** E. D. Alyea, Jr. (Emeritus), Andrew Bacher, Robert Bent (Emeritus), Leslie Bland, Bennet Brabson, John Cameron, John Challifour (Mathematics), Ray Crittenden (Emeritus), Alex Dzierba, Charles Goodman (Emeritus), Steven Gottlieb, Richard Hake (Emeritus), Richard Heinz, Archibald Hendry, Charles Horowitz, Larry Kesmodel, Alan Kostelecky, S. Y. Lee, Andrew Lenard (Emeritus), Don Lichtenberg (Emeritus), Timothy Londregan, Malcolm Macfarlane, Hugh Martin (Emeritus), Hans Meyer, Daniel Miller (Emeritus), James Musser, Hermann Nann, Harold Ogren, Catherine Olmer, William Schaich, Peter Schwandt, Brian Serot, P. Paul Singh (Emeritus), James Swihart (Emeritus), Steven Vigdor, George Walker, John Wills (Emeritus), Scott Wissink, Andrzej Ziemiński

**Senior Scientists** Charles Bower

(Astronomy), William Jacobs, Thomas R. Marshall, David Rust, James Sowinski, Edward Stephenson, Scott Teige, Daria Ziemińska

**Associate Professors** David Baxter, Michael Berger, John Carini, Fred Lurie (Emeritus), William Snow, Richard Van Kooten,

**Assistant Professors** Robert Gardner,\* Adam Szczepaniak,\* Jay Tang\*

**Graduate Advisor** Professor Brian Serot, Swain Hall West 234, (812) 855-0780

**Degrees Offered** Master of Science, Master of Arts for Teachers, and Doctor of Philosophy. The department also participates in the Ph.D. programs in astrophysics, chemical physics, and mathematical physics (described elsewhere in this bulletin).

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Grades** B average (3.0) required. See special requirement under "Master of Science Degree" for courses numbered below 501 that are to be counted toward that degree.

### Master of Science Degree

**Admission Requirements** Physics P201, P202, P301, P309, P331, P332, and P340 (or equivalents); Mathematics M211-M212, M311 (or equivalents). Deficiencies must be removed without graduate credit.

**Course Requirements** A total of 30 credit hours, of which at least 14 credit hours must be in physics courses numbered 501 or above. Seminars, research, and reading courses may not be counted toward this 14 credit hour requirement. Physics courses numbered below 501 that are listed in this bulletin may count toward the 30 credit hour requirement only if passed with a grade of B (3.0) or above.

**Thesis** Not required.

**Final Examination** Written or oral. May be taken only twice.

### Master of Science in Beam Physics and Technology Degree

**Admission Requirements** Same as for Master of Science degree.

**Course Requirements** A total of 30 credit hours, including the following: P441 (or equivalent at another institution), P506 (or equivalent), P570, one course at the 500 level or above in laboratory techniques or computational methods, and a master's thesis course (P802). Four advanced courses in beam physics should be chosen from among the Special Topics courses P571, P671, and P672, with topics to be listed in a syllabus prepared jointly by the I.U. Department of Physics and the U.S. Particle Accelerator School (USPAS). A graduate point average of 3.0 or better must be maintained in the courses satisfying the 30 credit-hour requirement. In particular, both

P441 and P506 (or equivalents) must be passed with a grade of B (3.0) or above.

**Thesis** Required.

**Final Examination** Either an oral defense of the thesis or a written final examination is required, and should take place at Indiana University. The written examination may be substituted for the oral defense only with the permission of the thesis committee.

### Master of Arts for Teachers Degree

**Admission Requirements** Eight (8) credit hours of undergraduate physics courses.

**Course Requirements** Twenty (20) credit hours in physics courses numbered P300 or higher, selected from the course listings below (recommended: P301, P309, P331, P332, P360, P451, P453, P454), the remaining 16 credit hours in graduate education and in mathematics, astronomy, or chemistry.

### Doctor of Philosophy Degree

**Admission Requirements** Same as those for Master of Science degree.

**Course Requirements** A total of 90 credit hours, including two courses at the 600 level or higher in one of the following five areas: condensed-matter physics (P557, P615, P616, P627, P657), high-energy physics (P535, P640, P641, P707, P708), mathematical physics (P522, P607, P609, P622, P637, P647, P665, P743), nuclear physics (P535, P626, P633, P634), accelerator physics (P671 plus one of P633, P634, P640, P641). Courses offered for the (optional) inside minor cannot be used to satisfy this requirement. A minimum of 9 credit hours per semester at the P501 level or above with a 3.0 (B) grade point average is required. Mathematics courses suited to the student's fields will be specified by advisors in the Department of Physics.

**Minor** The minor may be taken either inside or outside of the department. The inside minor consists of P551, either P621 or P625, and at least two different courses, falling within different areas of concentration, among the five areas listed above. Programs of study for outside minors are determined by the individual departments and typically require 9 to 12 credit hours of course work. Recommended outside fields: astronomy, chemistry, and mathematics. All minors must be approved by the graduate advisor of the Department of Physics.

**Qualifying Examination** Written. May be taken only twice. Must be taken at the end of the first year and must be passed by the end of the second year. The written examination covers the subjects of mechanics, electricity

and magnetism, quantum mechanics, and thermodynamics/statistical physics at the level of first-year graduate work. Relevant courses are P506, P507, P511, P512, P521, and P556. Not attempting the qualifying examination at the required time constitutes an automatic failure.

**Candidacy Seminar** Must be presented after the first attempt at the qualifying examination but before the end of the fifth semester. Usually pertains to a proposed dissertation topic.

**Dissertation** Result of a significant piece of original research.

**Final Examination** Oral defense of dissertation.

### Courses

Courses at the 300 level listed below may be taken for graduate credit only by M.A.T. students in physics; those at the 400 level or above are available for graduate credit to all graduate students.

**P301 Physics III (3 cr.)**

**P309 Modern Physics Laboratory (2 cr.)**  
**P331-P332 Theory of Electricity and Magnetism I-II (3-3 cr.)**

**P340 Thermodynamics and Statistical Mechanics (3 cr.)**

**P360 Physical Optics (3 cr.)**

**P410 Computing Applications in Physics (3 cr.)**

**P441-P442 Analytical Mechanics I-II (3-3 cr.)**  
**P453 Introduction to Quantum Physics (3 cr.)**

**P454 Modern Physics (4 cr.)**

**P500 Seminar (1 cr.)** Reports on current literature. Graduate students and staff participate.

**P504 Practicum in Physics Laboratory Instruction (1 cr.)** Practical aspects of teaching physics labs. Meets the week before classes and one hour per week during the semester to discuss goals, effective teaching techniques, grading standards, AI-student relations, and administrative procedures as applied to P201. Students enrolling in this course teach a section of P201 laboratory.

**P506 Electricity and Magnetism I (4 cr.)** Three hours of lectures and one hour of recitation. Development of Maxwell's equations.

Conservation laws. Problems in electrostatics and magnetostatics. Introduction to the special functions of mathematical physics. Time-dependent solutions of Maxwell's equations. Motion of particles in given electromagnetic fields. Elementary theory of radiation. Plane waves in dielectric and conducting media. Dipole and quadrupole radiation from nonrelativistic systems.

- P507 Electricity and Magnetism II (4 cr.)**  
Three hours of lectures and one hour of recitation. Further development of radiation theory. Fourier analysis of radiation field and photons. Scattering and diffraction of electromagnetic waves. Special relativity. Covariant formulation of electromagnetic field theory.
- P508 Current Research in Physics (1 cr.)**  
Presentations by faculty members designed to give incoming graduate students an overview of research opportunities in the department.
- P511 Quantum Mechanics I (4 cr.)** Three hours of lectures and one hour of recitation. Basic principles, the Schrödinger equation, wave functions, and physical interpretation. Bound and continuum states in one-dimensional systems. Bound states in central potential; hydrogen atom. Variational method. Time-independent perturbation theory.
- P512 Quantum Mechanics II (4 cr.)** P: P511. Three hours of lectures and one hour of recitation. Time-dependent perturbation theory. Schrödinger, Heisenberg and interaction pictures. Elementary theory of scattering. Rotations and angular momentum. Other symmetries. Nonrelativistic, many-particle quantum mechanics, symmetry and antisymmetry of wave functions, and Hartree-Fock theory of atoms and nuclei.
- P521 Classical Mechanics (3 cr.)** Vector and tensor analysis. Lagrangian and Hamiltonian dynamics. Conservation laws and variational principles. Two-body motion, many-particle systems, and rigid-body motion. Canonical transformations and Hamilton-Jacobi theory. Continuum mechanics with introduction to complex variables.
- P522 Advanced Classical Mechanics (3 cr.)** Mathematical methods of classical mechanics; exterior differential forms, with applications to Hamiltonian dynamics. Dynamical systems and nonlinear phenomena; chaotic motion, period doubling, and approach to chaos.
- P535 Introduction to Nuclear and Particle Physics (3 cr.)** P: P453 or equivalent. Survey of the properties and interactions of nuclei and elementary particles. Experimental probes of subatomic structure. Basic features and symmetries of electromagnetic, strong and weak forces. Models of hadron and nuclear structure. The role of nuclear and particle interactions in stars and the evolution of the universe.
- P540 Digital Electronics (3 cr.)** Digital logic, storage elements, timing elements, arithmetic devices, digital-to-analog and analog-to-digital conversion. Course has lectures and labs emphasizing design, construction, and analysis of circuits using discrete gates and programmable devices.
- P541 Analog Electronics (3 cr.)** Amplifier and oscillator characteristics feedback systems, bipolar transistors, field-effect transistors, optoelectronic devices, amplifier design, power supplies, and the analysis of circuits using computer-aided techniques.
- P551 Modern Physics Laboratory (3 cr.)**  
Graduate-level laboratory; experiments on selected aspects of atomic, condensed-matter, and nuclear physics.
- P556 Statistical Physics (3 cr.)** The laws of thermodynamics; thermal equilibrium, entropy, and thermodynamic potentials. Principles of classical and quantum statistical mechanics. Partition functions and statistical ensembles. Statistical basis of the laws of thermodynamics. Elementary kinetic theory.
- P557 Solid State Physics (3 cr.)** P: P453 or equivalent. Atomic theory of solids. Crystal and band theory. Thermal and electromagnetic properties of periodic structures.
- P570 Introduction to Accelerator Physics (3 cr.)** P: approval of instructor. Overview of accelerator development and accelerator technologies. Transverse phase space motion and longitudinal synchrotron motion of a particle in an accelerator. Practical accelerator lattice design. Design issues relevant to synchrotron light sources. Basics of free electron lasers. Spin dynamics in cyclic accelerators and storage rings.
- P571 Special Topics in Physics of Beams (3 cr.)** P: approval of instructor.
- P575 Introductory Biophysics (3 cr.)** Overview of cellular components; basic structures of proteins, nucleotides, and biological membranes; solution physics of biological molecules; mechanics and motions of biopolymers; physical chemistry of binding affinity and kinetics; physics of transport and signal transduction; biophysical techniques such as microscopy and spectroscopy; mathematical modeling of biological systems; biophysics in the post-genome era.
- P607 Group Representations (3 cr.)** P: consent of instructor. Elements of group theory. Representation theory of finite and infinite compact groups. Study of the point crystal, symmetric, rotation, Lorentz, and other classical groups as time permits. Generally offered in alternate years; see also MATH M607-M608.
- P609 Computational Physics (3 cr.)** Designed to introduce students (1) to numerical methods for quadrature, solution of integral and differential equations, and linear algebra; and (2) to the use of computation and computer graphics to simulate the behavior of complex physical systems. The precise choice of topics will vary.
- P615-P616 Physics of the Solid State I-II (3-3 cr.)** P: P512. Mechanical, thermal, electric,
- and magnetic properties of solids; crystal structure; band theory; semiconductors; phonons; transport phenomena, superconductivity; superfluidity; and imperfections. Usually given in alternate years.
- P621 Relativistic Quantum Field Theory I (4 cr.)** P: P512. Introduction to quantum field theory, symmetries, Feynman diagrams, quantum electrodynamics, and renormalization.
- P622 Relativistic Quantum Field Theory II (4 cr.)** P: P621. Non-Abelian gauge field theory, classical properties, quantization and renormalization, symmetries and their roles, and nonperturbative methods.
- P625 Quantum Many-Body Theory I (3 cr.)** P: P512. Elements of nonrelativistic quantum field theory: second quantization, fields, Green's functions, the linked-cluster expansion, and Dyson's equations. Development of diagrammatic techniques and application to the degenerate electron gas and imperfect Fermi gas. Canonical transformations and BCS theory. Finite-temperature (Matsubara), Green's functions, and applications.
- P626 Quantum Many-Body Theory II-Nuclear (3 cr.)** P: P625. Continued development of nonrelativistic, many-body techniques, with an emphasis on nuclear physics: real-time, finite-temperature Green's functions, path-integral methods, Grassmann algebra, generating functionals, and relativistic many-body theory. Applications to nuclear matter and nuclei.
- P627 Quantum Many-Body Theory II-Condensed Matter (3 cr.)** P: P625. Continued development of nonrelativistic many-body techniques with an emphasis on condensed-matter physics: properties of real metals, superconductors, superfluids, Ginzburg-Landau theory, critical phenomena, order parameters and broken symmetry, ordered systems, and systems with reduced dimensionality.
- G630 Nuclear Astrophysics (3 cr.)** P: A451-A452, P453-P454, or consent of instructor. R: A550, P611. Fundamental properties of nuclei and nuclear reactions and the applications of nuclear physics to astronomy. The static and dynamic properties of nuclei; nuclear reaction rates at low and high energies. Energy generation and element synthesis in stars; the origin and evolution of the element abundances in cosmic rays.
- P633-P634 Theory of the Nucleus I-II (3-3 cr.)** P: P512. Nuclear forces, the two-nucleon problem, systematics and electromagnetic properties of nuclei, nuclear models, nuclear scattering and reactions, theory of beta-decay, and theory of nuclear matter.
- P637 Theory of Gravitation (3 cr.)** P: consent of instructor. The general theory of relativity and its observational basis. Discussion of attempts at a quantum field theory of gravitation. See MATH M637.
- P640 Elementary Particles I (3 cr.)** P: P512. Experimental facts about hadrons and leptons, introduction to models of the fundamental particles and interactions, and experimental methods of high-energy physics.
- P641 Elementary Particles II (3 cr.)** P: P640. Field theoretic descriptions of elementary particles and applications.
- P647 Mathematical Physics (3 cr.)** P: P501 or P502, P521, or MATH M442. Topics vary from year to year. Integral equations, including Green's function techniques, linear vector spaces, and elements of quantum mechanical angular momentum theory. For students of experimental and theoretical physics. May be taught in alternate years by members of Departments of Physics or Mathematics, with corresponding shift in emphasis; see Mathematics M647.
- P657 Statistical Physics II (3 cr.)** Continuation of P556. Topics include advanced kinetic and transport theory, phase transitions, and non-equilibrium statistical mechanics.
- P665 Scattering Theory (3 cr.)** P: P506, P511. Theoretical tools for analysis of scattering experiments. Electromagnetic theory, classical and quantum particle dynamics.
- P671 Special Topics in Accelerator Physics (3 cr.)** P: P570, P521. Nonlinear dynamics; betatron phase space distortion due to the nonlinear forces. Methods of dealing with nonlinear perturbations. Multi-particle dynamics: microwave and coupled bunch instabilities. Physics of electron cooling and stochastic cooling. Advanced acceleration techniques: inverse free electron laser acceleration, wakefield and two-beam acceleration.
- P672 Special Topics in Accelerator Technology and Instrumentation (3 cr.)** P: approval of instructor.
- P700 Topics in Theoretical Physics (cr. arr.)**  
**P702 Seminar in Nuclear Spectroscopy (cr. arr.)**  
**P703 Seminar in Theoretical Physics (cr. arr.)**  
**P704 Seminar in Nuclear Reactions (cr. arr.)**  
**P705 Seminar in High-Energy Physics and Elementary Particles (cr. arr.)**  
**P706 Seminar in Solid State Physics (cr. arr.)**  
**P707-P708 Topics in Quantum Field Theory and Elementary Particle Theory (3-3 cr.)**  
**G711 Graduate Seminar in Chemical Physics (cr. arr.)**  
**P743 Topics in Mathematical Physics (3 cr.)** P: consent of instructor. For advanced students.



Several topics in mathematical physics studied in depth; lectures and student reports on assigned literature. Content varies from year to year. May be taught in alternate years by members of Departments of Physics or Mathematics, with corresponding shift in emphasis; see MATH M743.

**P782 Topics in Experimental Physics (1-4 cr.)**

**P790 Seminar in Mathematical Physics (cr. arr.)**

**P800 Research (cr. arr.; S/F grading)\***  
Experimental and theoretical investigations of current problems; individual staff guidance.

**P801 Readings (cr. arr.; S/F grading)\***  
Readings in physics literature; individual staff guidance.

**P802 Research (cr. arr.)\*** Experimental and theoretical investigations of current problems; individual staff guidance. Graded by letter grade.

**P803 Readings (cr. arr.)\*** Readings in physics literature; individual staff guidance. Graded by letter grade.

#### Astrophysics

**G750 Topics in Astrophysical Sciences (1-3 cr.)**

## Physiology and Biophysics

School of Medicine  
Indianapolis

**Chairperson** Professor Rodney Rhoades

**Departmental e-mail:** mbrown3@iupui.edu

**Departmental URL:** <http://www.iupui.edu/~medphys/>

#### Graduate Faculty

**Professors** Glenn Bohlen, Loren Field (Medicine, Pediatrics), Janice Froehlich (Medicine), Susan Gunst, Chiu Shuen Hui, Gary Hutchins (Radiology), Stephen Kempson, Richard Mess (Obstetrics), Marshall Montrose, Sidney Ochs (Emeritus), Ora Pescovitz (Pediatrics), Rodney Rhoades, W. Eugene Roberts (Dentistry), Carl Rothe, George Tanner, Wiltz Wagner (Anesthesia)

**Associate Professors** Robert Bigsby (Obstetrics), Patricia Gallagher, Lawrence Garetto (Dentistry), Alon Harris\*

(Ophthalmology), Edward Mannix\* (Medicine), Alonso Moreno (Medicine), Carolyn Patterson\* (Medicine), Fredrick Pavalko, Daniel Peavy, Joseph Unthank (Medicine)

**Assistant Professors** Robert Considine\* (Medicine), Randall Duncan (Orthopedic

Surgery), Richard Friedman\* (Neurosurgery), B. Paul Herring,\* Najia Jin,\* James Maars\* (Medicine), C. Subah Packer

**Adjunct Associate Professor** Denis K. English\* (Radiological Sciences)

**Adjunct Assistant Professor** Bonnie Blazer-Yost (Anatomy, Biology)

**Director of Graduate Studies** Associate Professor Fredrick Pavalko, Medical Science Building 377, (317) 274-3140, fpavalko@iupui.edu

**Graduate Advisor** Associate Professor Daniel E. Peavy, Medical Science Building 309A, (317) 274-8256

**Degrees Offered** Master of Science and Doctor of Philosophy

Graduate training in the department reflects the modern view of physiology as an integrative science, utilizing information obtained from several different levels to gain a better understanding of organ system functions. State-of-the-art techniques are used to study physiological responses at the molecular, cellular, and whole-organ levels. The specific research interests of most of the faculty can be grouped under four principal themes: cardiovascular physiology, cell growth and development, respiratory biology, and signal transduction mechanisms.

#### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Background in biology (general courses), chemistry (general, quantitative, organic, and physical), physics, and mathematics (through differential and integral calculus). Some deficiencies may be removed during the first year of graduate study. Graduate Record Examination scores on both the General Test and a Subject Test are required as a part of the application.

#### Master of Science Degree

**Course Requirements** A total of 36 credit hours, including F613, F705, and G706 or J611. Biochemistry (B800 or B810) required.

**Thesis** Optional.

**Final Examination** Written or oral or both.

#### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including 40 credit hours of formal course work with a minimum of 20 credit hours in physiology and biophysics. Required courses include F613, 3 credits of F702, F705, G706 or J611 and J612, and Biochemistry B800 or B810.

**Minor** A minimum of 12 credit hours in courses (other than research) in a related field (e.g., anatomy, biochemistry, biophysics, pharmacology). For a minor in either cell and molecular biology, life science, or physical sciences, a minimum of 14 credit hours is required, of which at least 8 credit hours must be obtained in one department.

**Qualifying Examination** Written and oral.

**Final Examination** Oral defense of dissertation.

**Other Provision** Participation in departmental teaching required.

**Ph.D. Minor in Physiology** Students outside the department desiring to obtain a doctoral minor in physiology must complete a minimum of 12 credit hours in physiology courses other than research and F609.

#### Courses

**A610 Research in Biophysics (1-15 cr.)**

**A612 Special Problems in Biophysics (1-15 cr.)**

**A620 Molecular Structure (3 cr.)** P: one year each of physical chemistry and calculus; R: BIOC B848. A study of molecular structure and the methods for determining structure with application to biological solutions and membranes.

**F503 Human Physiology (4 cr.)** P:

Introductory biology (K101, K103), and organic chemistry (C341, C342), and physics (P201, P202); or equivalent. Advanced course in human physiology designed for students with no prior exposure to the discipline.

Emphasis on basic physiological mechanisms of control with regard to membrane, neural, endocrine, reproductive, muscle, cardiovascular, respiratory, gastrointestinal, renal, and multisystems physiology.

**F592 Biophysics: Radioisotope Methodology (3 cr.)** P: F613, F614. Introductory atomic and nuclear physics; methods of manipulation and assay of radioactive materials; tracer theory, experimental design, data handling in various areas of physiology.

**F595 Advanced Physiology (cr. arr.)** Special techniques in advanced areas of physiology. **F596 Physicochemical Basis of Physiology (3 cr.)** P: consent of instructor. Review of selected physicochemical principles, e.g., modern thermodynamics, electrochemistry, solution theory, water structure, and molecular interactions, with special emphasis on their application to physiological problems.

**F609 Mammalian Physiology (5 cr.)** For students minoring in the life sciences and School of Dentistry students. One-semester lecture course covering the various

physiological areas listed under F613, but in less detail.

**F613 Mammalian Physiology Lecture (5 cr.)** Neurophysiology, physiology of muscular activity, respiration, circulation, gastrointestinal physiology, excretion, metabolism, and endocrinology. Emphasis on basic physiological mechanisms and control systems. See F614.

**F614 Mammalian Physiology Laboratory (3 cr.)** Taught in conjunction with F613.

**F650 Membrane Biophysics (3 cr.)** Structure and function of special membranes; mitochondria, RBC, nerve, and muscle.

**F670 Excitation and Transmission in Neural Systems (2 cr.)** A study of the biophysical aspects of neural systems; excitation, conduction, and transmission properties.

**F701 Research in Physiology (cr. arr.)\***

**F702 Seminar in Physiology (1 cr.)** Literature reports and group discussion by students and staff.

**F703 Biomedical Instrumentation (5 cr.)** P: F613 and F614; or consent of instructor.

Laboratory course on physical techniques used in physiological research. Theory of measurements and sources of error. Transducers, instrument systems, and data acquisition.

**F704 Simulation of Physiological Systems (3 cr.)** P: F613 or consent of instructor.

Mathematical models of physiological systems; equations solved with digital computers. Compartmental transfer; membrane transport; cardiovascular, endocrine, or respiratory dynamics will be considered.

**F705 Molecular and Cellular Physiology (4 cr.)** Emphasis is on the principles of cellular structure and function that underlie the physiological functions of many organ systems. Three fundamental topics will be discussed: cell structure, the organization of the cells to form tissues, and cell physiology. Modern techniques in cellular physiology will be covered through critical analysis of the primary research literature.

**F707 Physiology of Exercise (3 cr.)** P: B800 or B810, F613, F614, or consent of course director. Survey of musculoskeletal, cardiopulmonary, endocrine, and fluid and electrolyte responses to exercise, including effects of aging, hostile environments (altitude, undersea, extremes of ambient temperature), and training. Format: lectures, discussions, and a limited number of demonstrations in human performance laboratories.

**F710 Physiology of Membranes (2 cr.)** P: consent of instructor. Structure and function of cell membranes. Kinetics and energetics of membrane transport. Regulation of intracellular ionic concentrations. Hormonal



and pathophysiological modification of membrane function.

**F712 Physiology of the Circulatory System (2 cr.)** In-depth survey of cardiac performance, peripheral vascular function, and control characteristics.

**F724 Physiology of the Nervous System (3 cr.)** Physiological mechanisms of excitation and conduction of the nerve impulse, axoplasmic transport and nerve maintenance, synaptic transmission and trophic control, vision, somatic sensation, reflexes, hearing, olfaction, taste, locomotion, autonomic regulation, sleep, speech and language, learning and memory. Course will focus on discussion of classic and contemporary research papers.

**F725 Muscle Macromolecules and Contraction (2 cr.)** Structure and function of various macromolecules involved in muscle contraction. The aspects covered include excitation-contraction coupling, regulation of myoplasmic free calcium level, the contractile machinery, and force generation. Comparison in skeletal, cardiac, and smooth muscles. Lectures and guided discussion of papers.

**F734 Blood Gases and Respiration (2 cr.)** P: F613, F614. Pulmonary mechanics and gas exchange, gaseous transport and uptake by tissue, acid-base balance, central and reflex control of respiration, respiratory problems in altitude and deep sea physiology, modern techniques in respiratory physiology.

**F752 Physiology of the Gastrointestinal System (2 cr.)** P: F613, F614. Motility of the digestive tract; secretory mechanisms of the digestive glands; digestion and absorption of the major foods.

**F765 Physiology of the Endocrine System (2 cr.)** P: F613, F614. Regulation of secretions of the endocrine glands, including the neuroendocrine system, action of the hormones; roles of hormones in maintenance of a constant internal environment; physiology of reproduction.

**F772 Physiology of the Kidney: Body Fluids and Electrolytes (2 cr.)** P: F613, F614. Composition and distribution of body fluids and electrolytes. Renal regulatory role; factors concerned with glomerular filtration rate and blood flow. Tubular function, handling of organic and inorganic substances; chemistry and physics of transfer mechanisms. Role of hormones.

**F780 Special Topics in Physiology (cr. arr.)** Tutorial instruction in physiology.

**J611 Introduction to Biophysics I (3 cr.)** P: consent of instructor. An introductory course including principles of mechanics, fluid statics and dynamics, introductory classical thermodynamics and diffusion, electricity, feedback and control as related to biologically significant systems.

**J612 Introduction to Biophysics II (3 cr.)** P: J611 or equivalent. The statistical basis of physical principles governing molecular processes including diffusion and transport across membranes; thermodynamics; probability and the relationship of information theory; statistical mechanics; quantum mechanics, Boltzmann and Poisson distributions; and flow of movements and mass. Applications to current biophysical research are presented.

**GRAD G706 Cell-Cell Communication (3 cr.)** P: Consent of instructor. This course provides a basic understanding of chemical mechanisms of cellular communication, including the functional, biochemical, and molecular mechanisms of the communication processes involved. Modern techniques of signal transduction physiology will be covered through critical analysis of primary research literature.

**GRAD G760 Epithelial Cell Biology (3 cr.)** P: graduate mammalian physiology/biology or consent of instructor. An integrated approach to epithelial structure and function and the role of subcellular organization in organ physiology and pathophysiology.

**GRAD G817 Eukaryotic Cell Biology (2 cr.)** P: one semester of biochemistry. Organization and function of subcellular structures. Intracellular coordination of cell activity: protein and RNA trafficking, chromatin dynamics, and intracellular processing of receptor-mediated signals.

**GRAD G818 Integrative Cell Biology (3 cr.)** This course provides broad understanding of ways in which cells are organized and integrated into tissues. Emphasis is on the function of cells in neural/neuroendocrine system, cardiopulmonary, renal, and immune systems and in cytomechanics. Modern approaches to the study of tissue function by analysis of cellular regulation will be emphasized.

**GRAD G865 Fundamental Molecular Biology (3 cr.)** P: BIOC B800 or equivalent. Principles of molecular structure, function and biosynthesis; core information regarding prokaryotic and eukaryotic gene continuity and metabolic coordination; introduction to multicellular systems and problems. (Joint program: biochemistry, medical genetics, microbiology.)

**GRAD G890 Methods in Molecular Biology and Pathology (3 cr.)** P: C865 and/or J838, and consent of instructor. Basic principles and techniques in molecular biology and pathology. Particular emphasis will be on molecular techniques that can be used to study problems related to biochemistry and pathology.

**GRAD G910 Advanced Molecular Biology Methods (1-3 cr.)** P: C865 and/or C890 and

permission of instructor. Advanced theory and techniques in molecular biology. The focus of the course will be on techniques related to manipulation of cloned DNA to study their expression, structure, and function.

## Political Science

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Jeffrey Hart

**Departmental URL:**

<http://www.indiana.edu/~iupolsci/>

Apply electronically for admission:

<http://www.indiana.edu/~grdschl/infoadm.html>

## Graduate Faculty

**University Professor** York Willbern  
(Emeritus, Public and Environmental Affairs)

**Rudy Professors** Edward G. Carmines,  
Jeffrey Isaac

**Arthur E. Bentley Professors** Lynton Caldwell (Emeritus, Public and Environmental Affairs), Elinor Ostrom (Public and Environmental Affairs), Vincent Ostrom (Emeritus)

**Endowed Professor of Human Studies**  
R. Robert Huckfeldt

**Professors** Jacob Bielasiak, Alfred Diamant (Emeritus), Norman Furniss (West European Studies), Russell Hanson, Iliya Harik (Emeritus), Jeffrey Hart, Marjorie Hershey, Francis Hoole (Public and Environmental Affairs), Gregory Kasza (East Asian Languages and Cultures), Eugene McGregor (Public and Environmental Affairs), Bernard Morris (Emeritus), Patrick O'Meara (African Studies, Public and Environmental Affairs), James Perry (Public and Environmental Affairs), Karen Rasler, Leroy Rieselbach (Emeritus), Timothy Tilton, William Thompson, John T. Williams, Gerald Wright

**Associate Professors** Kenneth Bickers, Kathryn Firmin-Sellers,\* Lawrence Hanks,\* Robert Hattery (Emeritus), Michael McGinnis, Jean Robinson, Robert Rohrschneider, Dina Spechler, Richard Stryker

**Assistant Professors** Yvette Alex-Assensoh,\* Clark Gibson,\* Burt Monroe,\* Patrick Sellers\*

**Adjunct Associate Professor** William Fierman

**Director of Graduate Studies** Professor John T. Williams, Woodburn Hall 210C, (812) 855-1208

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Satisfactory scores on the Graduate Record Examination General Test; satisfactory previous academic record; three letters of recommendation. Applicants holding no academic degree higher than the bachelor's may be admitted to the M.A. or M.A.T. program; those with master's degrees must be admitted as Ph.D. students.

Admission to the Ph.D. program is based primarily on performance by the applicant in graduate work at Indiana University that can be applied toward the Ph.D. Application for admission to the Ph.D. program may be made after the completion of one semester of graduate study in the department, but not later than the conclusion of the third semester of such study. If the application is rejected, the student may reapply once any time after one additional semester has elapsed, through the fourth semester of graduate study. (In the case of a student enrolled on a part-time basis, the appropriate number of semester equivalents will be determined by the departmental director of graduate studies.) Evidence considered by the departmental Admissions and Awards Committee in reviewing applications to the Ph.D. program includes: (1) student performance in seminars and course work in political science; (2) successful completion of at least the first language/research-skill requirement; and (3) other evidence of scholarly skill and attainment, as provided by research projects and faculty evaluations.

## Master of Arts Degree

**Course Requirements** A total of 30 credit hours, including Y570. At least 15 of the 30 credit hours must be in graduate courses (500 level or higher). Each graduate student must complete five graduate seminars in political science, averaging at least a grade of B (3.0) in all seminars, to qualify for the M.A. degree. (For students entering with previous graduate work, the director of graduate studies, with the recommendation of the student's M.A. committee, can reduce the number of required seminars based on the prior graduate training.)

**Essay Required** The essay may be based on a research paper prepared in a departmental seminar. If a new paper is written and presented as a thesis, it may receive no more than 4 hours of credit. The essay must be presented to all members of the examining committee, prior to the examination, for approval.

### Foreign Language/Research-Skill Requirement

The student must demonstrate reading proficiency in one foreign language or proficiency in an approved research skill. Students specializing in public policy must use an approved research skill, not a foreign language, to meet this requirement.

**Other Provision** Work taken to meet the requirements of such programs as the area certificate of the Russian and East European Institute may be applied toward the M.A. degree.

**Final Examination** An oral examination for the M.A. degree will be conducted by a faculty committee and will cover both the student's course of study and required essay.

## Master of Arts for Teachers Degree

Information regarding this degree program may be obtained from the director of graduate studies.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation. Y570 Political Science is to be taken in the first year of residence. Students who select a field with an approaches-and-issues seminar should take the seminar during the first two years of residence. Each graduate student must complete 10 graduate seminars numbered 500 and above in political science (excluding directed reading and directed research courses), averaging at least a B (3.0) in all seminars, prior to nomination to candidacy for the Ph.D. degree. (For students entering with previous graduate work, the director of graduate studies, with the recommendation of the student's advisory committee, can reduce

the number of required seminars based on the prior graduate training.) Students must also complete Y550. A substantial research paper is required at the end of a student's second year. This paper should represent original research performed by the student. The advisory committee will evaluate whether the student's paper is adequate for purposes of this requirement.

**Fields of Study** The student will select two fields in political science from the following: American politics; international relations; comparative politics; political theory and methodology; public policy; political philosophy.

In exceptional cases, with the written approval of the director of graduate studies, the student may offer as one of the fields a course of study that cuts across two of the established fields. For students in comparative politics, the department offers specialized training on Russia, the other Soviet successor states, and Eastern Europe; Western Europe, the Middle East, Africa, and East Asia (China, Japan, and Korea).

**Minors** One or more minor fields in related departments or in an interdepartmental program, embracing either substantive material or methodology.

**Advisory Committee** Each student will be assigned an advisory committee, which will include two faculty members from each of the student's two fields in political science and a representative of each minor. The chairperson of the committee serves as the student's principal advisor. The committee will supervise the student's course of study. Fairly early in the student's residence, but in no case later than the third semester of study, the advisory committee will provide the student with a formal review of progress toward the degree.

### Foreign Language/Research-Skill Requirement

The student must demonstrate proficiency in any two of the following: French, German, Spanish, Russian, mathematics, logic, statistics, or computer science. With approval of the department and the dean of the University Graduate School, another language may be substituted if appropriate to the student's proposed program. With the approval of the advisory committee, the student may qualify in a single language or research skill at an advanced level, rather than in two. In order to qualify in a language at the advanced level, the student must satisfy the in-depth proficiency requirement. For rules regarding qualification in a research skill at the advanced level, consult the director of graduate studies. The student is expected to make satisfactory

progress in meeting the requirements for the degree; in particular, the student must satisfy the first language or research-skill requirement during the first year of study, the second requirement no later than the second year.

**Qualifying Examination** The qualifying field examination is intended to evaluate the student's substantive knowledge and analytical ability in both of the student's fields of study. The written qualifying examination is administered two times a year: in the fall and spring.

**Research Committee** Upon completion of the qualifying examination and presentation of a satisfactory dissertation proposal, the student will be nominated to candidacy for the Ph.D. The University Graduate School, on the recommendation of the department, will appoint a research committee to supervise the dissertation.

**Final Examination** Covers the field of study related to the dissertation and defense of the dissertation.

## Courses

### 300 Level

**Y311 Democracy and National Security (3 cr.)**

**Y313 Environmental Policy (3 cr.)**

**Y333 Chinese Politics (3 cr.)**

**Y334 Japanese Politics (3 cr.)**

**Y337 Latin American Politics (3 cr.)**

**Y338 African Politics (3 cr.)**

**Y339 Middle Eastern Politics (3 cr.)**

**Y340 East European Politics (3 cr.)**

**Y342 Topics on the Regional Politics of Africa (3 cr.)** May be repeated once for credit with consent of instructor and department graduate advisor.

**Y343 Development Problems in the Third World (3 cr.)**

**Y368 Russian and Soviet Foreign Policy (3 cr.)**

**Y381-Y382 History of Political Theory I-II (3-3 cr.)**

**Y383-Y384 American Political Ideas I-II (3-3 cr.)**

**Y385 Russian Political Ideas (3 cr.)**

**Y394 Public Policy Analysis (3 cr.)**

### 500 Level

**Y550 Political Science and Professional Development (1-3 cr.)** Philosophies and techniques of teaching various types of political science courses in different learning environments; factors related to the motivation and performance of students; development of course materials for undergraduate courses; preparing to present papers at conventions and to apply for grants; improving self-

presentation skills for job interviews. May be repeated for up to three credits.

**Y557 Comparative Politics: Approaches and Issues (3 cr.)** Overview and analysis of the approaches and issues in the literature of comparative politics. Required of students taking comparative politics as a field of study for the Ph.D. It is recommended that this course be taken during the first two years of graduate work at Indiana University.

**Y561 American Politics: Approaches and Issues (3 cr.)** Overview and analysis of the approaches and issues in the literature of American politics. Required of students taking American politics as a field of study for the Ph.D. It is recommended that this course be taken during the first two years of graduate work at Indiana University.

**Y565 Public Administration, Law, and Policy: Approaches and Issues (3 cr.)** Overview and analysis of the approaches and issues in the literature of public administration, law, and policy. Required of students taking public administration, law, and policy as a field of study for the Ph.D. It is recommended that this course be taken during the first two years of graduate work at Indiana University.

**Y569 International Relations: Approaches and Issues (3 cr.)** Overview and analysis of the approaches and issues in the literature of international relations. Required of students taking international relations as a field of study for the Ph.D. It is recommended that this course be taken during the first two years of graduate work at Indiana University.

**Y570 Introduction to the Study of Politics (3 cr.)** Problems of graduate study and

professional scholarship; central organizing concepts and the use of theory in political science and related disciplines; specialized areas of research and scholarship in political science; conditions of scientific inquiry and methodological problems in the study of political phenomena; central importance of theory in explanation.

**Y572 Mathematical Tools for Political Scientists (1 cr.)** Review of topics in

mathematics that are particularly useful in the application of formal political theory and political methodology. Typical topics include Euclidean spaces and functions; sets, neighborhoods, sequences, and limits; derivatives; integrals; vectors and matrices; optimization. To be taken prior to or concurrent with Y573 and Y577.

<sup>1</sup> Graduate students must obtain consent of the instructor in order to enroll for graduate credit.

**Y573 Introduction to Formal Political Theory (3 cr.)** Introduction to the use of formal models in political science. Provides the training required to develop basic models of political process and exposes students to classic works and problems in formal political theory.

**Y575 Political Data Analysis I (3 cr.)** Basic quantitative analysis techniques applied to political science data: principles of measurement, tables, graphs, probability distributions, nonparametric statistics, matrix algebra, Markov chains, correlations and simple regression, tests of significance. Computer processing of data and applications of bivariate statistics to problems in political science emphasized.

**Y576 Political Data Analysis II (3 cr.)** P: Y575 or equivalent. Focuses on general linear model and multivariate statistical techniques such as analysis of variance and covariance, partial and multiple regression and correlation, time series analysis, logit and probit analysis, canonical correlation, and discriminant analysis. Applications to problems in political science research emphasized.

**Y577 Advanced Topics in Political Data Analysis (3 cr.)** P: Y576 or equivalent. Content varies. Topics include analysis of covariance structures, dynamic modeling, estimation of multiple equation systems, mathematical models, time series analysis. Applications to problems in political science research emphasized. May be repeated for credit if topic differs.

**Y580 Research Methods in Political Science (1-3 cr.)** Foundations of political research; alternative research strategies; problems of measuring political variables; design of research to test hypotheses.

**Y591 Computer Applications in Political Science (1 cr.)** Introduces students to computing applications for political scientists. Topics include computing packages such as STATA, GAUSS, and EXCEL; creating datasets; and transferring datasets among programs. Covers only personal computer (DOS) applications and operating systems.

**Y592 Bibliography of Political Science (1 cr.)** Introduction to library research tools in political science, problems of bibliographical research, special resources of Indiana University, problems of utilizing library resources.

#### 600 Level

With the exception of individual readings courses, 600-level courses are seminars or colloquia. In some instances a seminar will introduce students broadly to the principal scholarly literature in a field; in others, the objective will be to provide an in-depth analysis of a more specialized area of research.

The kinds of seminar topics that are offered regularly are illustrated below.

Seminar topics often have relevance for each of several of the departmental examination fields. Furthermore, a given topic may be approached from a variety of perspectives. Therefore, although cross-listing is avoided here for the sake of brevity, it should be noted that essentially the same topic may appear under each of two or more generic titles at various times.

Interested students should consult detailed course descriptions, which are available on request from the departmental graduate office in advance of each semester. Any course at the 600 level may be taken more than once, provided the topic is not repeated.

**Y657 Comparative Politics (3 cr.)** (The focus may be on one or more political systems within regions indicated.) Illustrative topics: political elites and social stratification, comparative administration and public policy, cross-national analysis, West Europe, East Europe, comparative Communist systems, Russia, Africa, Middle East, Latin America, East Asia, comparative development strategies.

**Y661 American Politics (3 cr.)** Illustrative topics: the presidency, legislative process, political behavior, political parties and representation, political socialization, comparative state politics, urban politics, bureaucratic politics.

**Y663 Political and Administrative Development (3 cr.)** Illustrative topics: politics of social change, comparative urbanization, political and administrative development.

**Y665 Public Law and Policy (3 cr.)** Illustrative topics: urban policy analysis; politics of higher education; science, technology, and public policy; politics of environmental policy.

**Y669 International Relations (3 cr.)** Illustrative topics: international conflict, international organization, quantitative international relations, analysis and evaluation of policy making, U.S. foreign policy, Russian and Soviet foreign policy, international and comparative communism, international political economy.

**Y671 Public Administration (3 cr.)** Illustrative topics: organization theory, urban administration, public administration.

**Y673 Empirical Theory and Methodology (3 cr.)** Illustrative topics: survey of empirical theory, theory building and causal inference, positive political theory, institutional analysis and design, empirical democratic theory, research design.

**Y675 Political Philosophy (3 cr.)** Illustrative topics: analysis of political concepts; political theory of the Enlightenment; nineteenth-

century political thought; welfare state: theory and practice; Marxist theory; American political thought.

**Y681 Readings in Comparative Politics (1-4 cr.)**

**Y683 Readings in American Politics (1-4 cr.)**

**Y685 Readings in Public Administration, Law, and Policy (1-4 cr.)**

**Y687 Readings in International Relations (1-4 cr.)**

**Y689 Readings in Political Theory and Methodology (1-4 cr.)**

#### 700 Level

All 700-level courses are research seminars. Students are expected to demonstrate their own research enterprise on a topic agreed upon with the instructor. In some instances, team research may be carried out. Students are also expected to make significant progress toward identification of an eventual dissertation project in the research seminars in the major field. Each course may be taken more than once.

**Y757 Comparative Politics (3 cr.)**

**Y761 American Politics (3 cr.)**

**Y763 Political and Administrative Development (3 cr.)**

**Y765 Public Law and Policy (3 cr.)**

**Y769 International Relations (3 cr.)**

**Y771 Public Administration (3 cr.)**

**Y773 Empirical Theory and Methodology (3 cr.)**

**Y775 Political Philosophy (3 cr.)**

**Y780 Directed Research in Political Science (1-4 cr.)\***

#### 800 Level

**Y880 M.A. Thesis (1-4 cr.)\***

**Y890 Ph.D. Thesis (cr. arr.)\***

## Population Institute for Research and Training

Bloomington

**Director** Associate Professor George Alter

**Departmental e-mail:** [pirt@indiana.edu](mailto:pirt@indiana.edu)

**Departmental URL:**

<http://www.indiana.edu/~pirt>

### Graduate Faculty

**Professors** Judith Allen (History), Dennis Conway (Geography), John Odlund (Geography), James C. Riley (History), Nazif Shahrami (Central Eurasian Studies), George J. Stolnitz (Emeritus, Economics), James

Vaughan (Emeritus, Anthropology), Richard Wilk (Anthropology)

**Associate Professors** George Alter (History), Laurel Cornell (Sociology), Elyce Rotella (Economics)

**Assistant Professors** Sheila Cooper\* (History, IUPUI), Carl Ipsen (History)

**Director of Graduate Studies** Associate Professor George Alter, 408 N. Indiana, Room 226, (812) 855-5631

### Ph.D. Minor in Population Studies

The minor in population studies requires 12 credit hours of approved courses, which must include two core courses. The core curriculum consists of an overview of issues in population studies (G590) and a basic course in demographic methods (G591). The director of the Population Institute for Research and Training serves as chairperson of the minor field, and certifies completion of the minor for students who have (1) completed the required courses in good standing and (2) passed an examination given at the discretion of the director and the program faculty.

### Courses

**G590 Population Analysis: Concepts, Issues, Problems (3 cr.)** P: graduate status or approval of instructor. Theoretical issues, empirical questions on social determinants and consequences of biological events like birth and death. Age structure, marriage and household formation, gender, migration, quality of data, population policy in developing countries and advanced industrial societies. Contemporary and historical sources.

**G591 Methods of Population Analysis and Their Applications (3 cr.)** P: an undergraduate course in statistics. Techniques of measuring and analyzing population size and trends, fertility and mortality patterns, migration flows. Population estimates and projections. Major models of formal demography.

**G592 Topics in Population Research (3 cr.)** P: G590 and G591 or approval of instructor. Seminar-level course emphasizing class presentations, reviews of advanced literature, and the writing of research papers. Subject areas will include fertility, mortality, migration, economic demographic interrelations, mathematical demography, dynamics of small populations, and population projections.

**G593 International Perspectives on Population Problems (3 cr.)** International trends in population growth, characteristics, and structure with attention to major social, environmental, economic, and political implications. Comparisons between industrially advanced economies and less

developed countries in Latin America, Africa, and Asia. Special emphasis will be placed on local and national circumstances affecting fertility, mortality, migration, and emerging roles of population policies in development planning.

### Cross-Listed Courses

**Anthropology**  
E600 Seminar in Cultural and Social Anthropology (3 cr.)

**Economics**  
E592 Economic Development of Less-Developed Countries (3 cr.)

**Geography**  
G803 Seminar in Economic Geography (3 cr.)  
G812 Seminar in Population Geography (3 cr.)

**Sociology**  
S660 Advanced Topics (2-6 cr.)

## Psychology

College of Arts and Sciences  
Bloomington

Chairperson Professor Joseph E. Steinmetz

### Graduate Faculty

Distinguished Professor Eliot Hearst (Emeritus)

Research Professor William Neff (Emeritus)

Luther Dana Waterman Professor Richard Shiffrin

Eleanor Cox Riggs Professor Joseph Steinmetz

Rudy Professor James T. Townsend

Chancellors' Professors James Craig, David Pisoni, George Rebec, Linda Smith

**Professors** Jeffrey Alberts, James Allison (Emeritus), John Bates, Richard Berry (Emeritus), Geoffrey Bingham, Alexander Buchwald (Emeritus), Jerome Busemeyer, Jerome Chertkoff, James Dinsmoor (Emeritus), Douglas Ellison (Emeritus), Joseph Farley, Russell Fazio, Gabriel Frommer, Robert Goldstone, S. Lee Guth (Emeritus, Visual Sciences), Kenneth Heller (Emeritus), Amy Holtzworth-Munroe, Margaret Intons-Peterson (Emerita), John Kruschke, Richard McFall, Conrad Mueller (Emeritus), Robert Nosofsky, Lloyd Peterson (Emeritus), Donald Robinson (Emeritus), Richard Rose, Dale Sengelaub, Steven Sherman, Esther Thelen, William Timberlake, Charles Watson (Emeritus, Speech and Hearing Sciences), Meredith West, Harry Yamaguchi (Emeritus)

**Associate Professors** Thomas Busey,\* Peter Finn, Preston Garraghty, Edward Hirt, Susan Jones, Harold Lindman, Armando Machado,\* Richard Viken

**Assistant Professors** William Hetrick,\* Kelly Mix,\* Brian O'Donnell,\* Sarah Queller,\* Julie Stout,\* Cara Wellman\*

Adjunct Assistant Professor Cynthia Graham\*

Senior Scientist Andrew King\*

Visiting Assistant Professor Brian Bowdle (Affiliate)

Graduate Advisor Professor Meredith West, Psychology Building 351, (812) 855-9597

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** General psychology, laboratory work, and one course in statistics. In exceptional cases, these requirements may be reduced by the chairperson with the consent of the dean of the University Graduate School, particularly if the student has a good background in a biological science, physics, or mathematics. Deficiencies may be removed while pursuing graduate degrees.

**Grades** An average of at least a B+ (3.3) must be maintained in all course work. No grades below B - (2.7) may be counted toward degree requirements. Students receiving more than one grade below B - (2.7) are not in good standing and are subject to dismissal.

**Research** To remain in good standing, students must successfully complete research projects during their first and second years of graduate study. Evaluation of students is based on first- and second-year research projects and on research potential, as well as on course work. All students are expected to develop research skills appropriate to their programs through a combination of course work, individual study, and experience.

### Master of Arts Degree

**Course Requirements** A total of 30 credit hours including a core consisting of P553 and P595, and one graduate course in four areas of specialization in the department. No training program in clinical psychology is offered at the master's level. Students ordinarily are not admitted for work leading only to the master's degree. They may be admitted when unusual administrative or evaluative circumstances warrant.

**Thesis** Required.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, including dissertation, a core consisting of P553, P554, and P595, course selections from the student's area of specialization and one graduate course in two areas outside the student's specialization. Majors in clinical science must also take 12 credit hours of clinical core courses, two clinical elective courses, and 4 credit hours in P690 and must successfully complete a one-year internship at an institution approved by the department. Additional course requirements may be specified by the student's advisory committee.

**Minor** A doctoral student may choose to minor outside of the department or to take an in-depth minor within the Department of Psychology. If a minor outside the department is elected, the requirements are specified by that unit. An in-depth minor within the department consists of 9 credit hours of graduate course work in an area of psychology other than that of the major. The specific courses making up such a minor must be approved by the student's advisory committee.

**Other Provision** All students are required to serve one year as associate instructors or obtain equivalent teaching experience as approved by the department chair.

**Qualifying Examination** Written and oral; must be taken at the beginning of the fifth regular semester of residency. Students failing the qualifying examination twice will be dismissed from the program.

**Ph.D. Minor in Psychology** Doctoral students in other departments may elect psychology as an outside minor. A minimum of four courses at the 400 level or above is required. The student must achieve a grade of at least B - in each course and an overall grade point average of at least 3.0. The specific courses must be approved by a faculty advisor and may include no more than one research course (P895).

### Courses

Courses in the department numbered below P400 are not acceptable as credit toward a graduate degree in psychology.

**P400 Psychological Measurement and Scaling** (2 cr.)

**P412 Laboratory in Human Performance** (3 cr.)

**P417 Animal Behavior** (3 cr.)

**P421 Laboratory in Social Psychology** (3 cr.)

**P423 Human Neuropsychology** (3 cr.)

**P424 Laboratory in Sensation and Perception** (3 cr.)

**P425 Behavior Disorders of Childhood and Adolescence** (3 cr.)

**P426 Laboratory in Behavioral Neuroscience** (3 cr.)

**P427 Laboratory in Psychological Measurement** (3 cr.)

**P428 Laboratory in Comparative Psychology** (3 cr.)

**P429 Laboratory in Developmental Psychology** (3 cr.)

**P434 Community Psychology** (3 cr.)

**P435 Laboratory in Human Learning and Cognition** (3 cr.)

**P436 Laboratory in Animal Learning and Motivation** (3 cr.)

**P438 Language and Cognition** (3 cr.)

**P456 Theory Construction in Psychology** (2 cr.)

**P459 History and Systems of Psychology** (3 cr.)

**P460 Women: A Psychological Perspective** (3 cr.)

**P465 Psychophysics of Hearing** (3 cr.)

Undergraduates may, by consent of the instructor, register in and receive credit for graduate courses (numbered P500 and above). Ordinarily such consent is not granted unless the student has completed 20 credit hours of psychology. Students in the psychology Ph.D. program may not take a 400-level course for graduate credit if an equivalent higher-level graduate course is available.

**P500 Psychology for Graduate Students** (3 cr.) P: graduate standing or consent of instructor. Basic psychological principles. For students with little or no previous training in psychology.

**P501 Research Issues in Clinical Psychology** (3 cr.) P: graduate standing in psychology or consent of instructor. A research-oriented survey of psychopathy, assessment, and psychotherapy. Models of psychological disorder; strategies of etiological research; test construction and clinical prediction; research on process and outcomes of psychotherapy. Credit not given for both P501 and P530.

**P502 Developmental Psychology** (3 cr.) An advanced introduction to the theory and experimental analysis of ontogenetic processes. Special emphasis on human development.

**P503 Complex Cognitive Processes** (3 cr.) P: graduate standing in psychology or consent of instructor. A survey of topics in human information processing, including attention, short-term storage, long-term retention, retrieval from memory, concept attainment, problem solving, speech perception, and psycholinguistics.

- P504 Learning and Motivation (3 cr.)** P: graduate standing in psychology or consent of instructor. Introduction to theory and experimental literature in learning and motivation. Focus on nonhuman behavior.
- P505 Physiological Psychology (3 cr.)** P: graduate standing in psychology or consent of instructor. Intensive introduction to physiological psychology, with special emphasis on its relation to other areas of psychology.
- P506 Sensory Psychology (3 cr.)** P: graduate standing in psychology or consent of instructor. Introduction to methods and research in sensory psychology.
- P507 Theories of Learning (3 cr.)** Survey, comparison, and critical analysis of modern theories of learning, from Thorndike to present.
- P510 Principles of Research in Psychology (2 cr.)** Scientific methods of psychology. Principles of construction and testing of psychological theories; role of correlation and experimental techniques; requirements of valid inference. Topics will be discussed using examples from all areas of psychological research.
- P511 Social Psychology (3 cr.)** P: graduate standing in psychology or consent of instructor. Introduction to theory and research in social psychology.
- P514 Methods in Biopsychology (2 cr.)** P: K300 or equivalent, course in laboratory sensory and physiological psychology.
- P517 Methods in the Direct Observation of Behavior (3 cr.)** P: P553 or its equivalent. Reviews current use of observational techniques in the study of animal and human behavior and critically considers the development of coding schemes and strategies of data recording and analysis.
- P519 Current Theories of Personality (3 cr.)** P: graduate standing, consent of instructor. Original writings of major contemporary theorists of personality.
- P523 Operant Research (2 cr.)** Preparation for research using operant procedures: rationale, instrumentation, techniques of behavioral control, experimental strategy, problems of within-subject comparison, analysis of data.
- P525 Classical Conditioning (3 cr.)** Critical evaluation of experimental literature. Emphasis on methodological and theoretical issues.
- P526 Neurobiology of Learning and Memory (3 cr.)** Comprehensive survey of the cellular and molecular bases of associative and nonassociative forms of learning and memory. Vertebrate and invertebrate model systems and preparations as well as data obtained from the human neuropsychology literature will be studied.
- P527 Developmental Psychobiology (3 cr.)** Ontogeny of sensory-motor behavior and its underlying anatomical and physiological development.
- P528 Experimental Analysis of Economic Behavior (3 cr.)** P: graduate standing or permission of instructor. Relations between experimental psychology and microeconomics: basic concepts, theory, and research.
- P530 Clinical Psychology (3 cr.)** P: graduate standing and consent of instructor. Introduction to clinical psychology as an experimental-behavioral science, with an emphasis on theoretical, methodological, and ethical issues basic to clinical research and professional practice.
- P536 Theory of Tests and Measurements (3 cr.)** P: P553. Survey of test and measurement procedures; classical test theories, statistical theories; models of tests.
- P540 Principles of Psychological Assessment and Prediction (3 cr.)** P: P553-P554 or equivalent. Concepts of validity and reliability. Diagnostic devices viewed as bases for decisions. Classification. Comparison of methods of making predictions about individuals.
- P541 Individual Differences in Intellectual Abilities (3 cr.)** P: graduate standing in psychology or consent of instructor. Individual differences in cognitive functioning; evaluation of assessment techniques.
- P553-P554 Advanced Statistics in Psychology I-II (3-3 cr.)** P: K300 or equivalent. Statistical inference applied to problems in psychological research. Experimental design and data interpretation. Elementary probability theory, statistical distribution, classical and nonparametric tests of hypotheses, point and interval estimation. Relations between statistical models and experimental controls.
- P555 Computer Application in Psychological Research (3 cr.)** P: P553, knowledge of FORTRAN. Survey of uses of computers as research tools. Programming languages, numerical methods, data analysis, library routines, simulation, graphics, and laboratory control.
- P556 Independent Computer Project (2 cr.)** The student carries out a project involving the use of a computer in some phase of psychological research. Some new development or sophisticated modification of available programs is required.
- P557 Representation of Structure in Psychological Data (3 cr.)** P: P553 or consent of instructor. Survey of multidimensional scaling, clustering, choice theory, and signal detection
- approaches to modeling similarity and classification. Theory and application.
- P564 Psychophysics (3 cr.)** Classical and modern methods for investigation of sensory-perceptual processes. Application of signal detectability theory to psychophysics; emphasis on current research on detection and recognition of auditory signals in noise.
- P565 Psychophysics of Vision (3 cr.)** Critical evaluation of research literature on visual functions of brightness, color, and spatial discrimination.
- P566 Psychophysiology of Vision (3 cr.)** Relations among physiology of sensory action and psychophysics of brightness, color, and spatial discrimination.
- P595 First-Year Research Seminar (2-3 cr.)** Presentation and discussion of first-year graduate student research projects.
- P605 Introduction to Mathematical Psychology (3 cr.)** P: P553 or consent of instructor. Current applications of mathematics to psychology.
- P615 Developmental Psychology I (3 cr.)** An analysis of developmental processes in humans and nonhumans. Emphasis on the study of mechanisms that control the ontogeny of sensory, motor, cognitive, and language systems.
- P616 Advanced Child Psychology (3 cr.)** Critical examination of the literature. Behavior changes from birth through adolescence.
- P619 Seminar in Personality (3 cr.)** P: P519 or consent of instructor. Critical discussion of current factual and theoretical issues in personality.
- P620 Attitudes and Attitude Change (3 cr.)** P: P320, P511, or consent of instructor. Concepts of the attitude construct and theories of attitude formation and change.
- P623 Psychology of Language (3 cr.)** Psycholinguistic events, including communicative speech, gestures, and symbolic behavior. Interrelations between linguistic and other psychological processes in individual and social situations.
- P624 Principles of Psychopathology (3 cr.)** P: graduate standing and consent of instructor. Description of the phenomena of psychopathology and the principles associated with their classification.
- P625 Operant Conditioning (3 cr.)** A survey and interpretation of research findings on problems of systematic interest for a general science of behavior, with emphasis on recent work.
- P628 Psychophysiology of Somatic Functions (3 cr.)** Theories and current experimental work on emotions. Environmental and organismic factors affecting somatic functions. Control of somatic functions.
- P631 Intervention and Evaluation (3 cr.)** P: consent of instructor. A systematic comparison of theories of psychotherapy and behavior change. Introduction to evaluation techniques appropriate to applied settings.
- P632 Introduction to Clinical Interventions (3 cr.)** P: P631 and consent of instructor. Systematic integration of theory, research, technique, and evaluation. Based on the available research literature, time-limited, structured interventions for specific clinical problems are designed, administered, and evaluated.
- P634 Advanced Survey of Community Psychology (3 cr.)** P: 15 credit hours of psychology or consent of instructor. A survey of issues and research in community psychology. Topics covered include the role of conceptual models in guiding intervention practices; research in social epidemiology; prevention, consultation, and organizational and community change.
- P635 Applied Human Learning (3 cr.)** P: graduate standing and one course in learning or consent of instructor. Critical study of situational attempts to apply learning principles, e.g., programmed instruction, second-language learning, speech correction, psychotherapy, training and retraining of the handicapped and the retarded.
- P638 Experimental Psychology of Reading (3 cr.)** Examination of the component stages of the reading process. Focuses on how visual information is processed within the framework of information processing and psycholinguistics. Topics to be considered include alphabets, phonetics and phonology, letter recognition, word and sentence processing, cognitive bases of reading, and methods currently employed in teaching reading.
- P641 Assessment (3 cr.)** P: consent of instructor. Review of research and theory on methods of gathering information about individuals.
- P643 Perception and Sensory Memory (3 cr.)** Analysis of the experimental literature and theories of perception and sensory memory.
- P644 Attention and Short-Term Memory (3 cr.)** Analysis of the experimental literature and theories of human attention and short-term memory, including visual and verbal systems and forgetting.
- P645 Learning and Long-Term Memory (3 cr.)** Analysis of the experimental literature and theories of human learning and long-term memory, including forgetting, organization, sentence memory, and nonverbal memory.
- P646 Knowledge Systems and Problem Solving (3 cr.)** Analysis of the experimental literature and theories of human knowledge systems and problem solving, including conceptual systems for word meanings,

propositions, abstractions, and spatial and serial relations.

**P647 Decision Making Under Uncertainty (3 cr.)** P: P553 or consent of instructor. Detailed survey of decision making under uncertainty. Theories, data, and application of decision making in situations involving imperfect (probabilistic) information; preference and inference in judgment. Applications covered include learning, risky choice, diagnostic decisions, group decisions.

**P648 Choice Behavior (3 cr.)** P: P553 or consent of instructor. Preferential choice under conditions of certainty. Critical review of the properties and limitations of current theories of choice and scaling.

**P651 Perception/Action (3 cr.)** P: consent of instructor. Coverage will include event perception, optical flow analysis (aperture problem, correspondence problem, structure from motion, sensory psychophysics, contact with machine vision), problems in motor coordination and control (motor equivalence, degrees of freedom problem, contact with physiology of movement and robotics). Focus on the relation between perception and action.

**P653 Analysis of Variance (3 cr.)** P: P553-P554. Data analysis of standard experimental designs, including multiway designs, nested and crossed, with fixed and random factors. Statistical tests and estimation, with emphasis on individual comparisons, including trend analysis.

**P654 Multivariate Analysis (3 cr.)** P: P553-P554. Survey of multivariate statistical methods: partial, multiple, and canonical correlation, factor analysis, discriminant analysis, classification procedures, profile analysis, and multivariate analysis of variance.

**P657 Topical Seminar (cr. arr.)** Topics of current interest, with intensive critical examination of appropriate literature. Different staff member in charge each semester.

**P658-P659 Mathematical Models in Psychology I-II (4-4 cr.)** P: P605 or consent of instructor. Intensive study of mathematical models employed in experimental psychology: learning, perception, reaction time, social processes. Emphasis on probability methods.

**P660 The Teaching of Psychology (1 cr.)** Open to advanced graduate students. Problems of selection, organization, and presentation of psychological knowledge to undergraduates. Emphasis on introductory lecture and laboratory courses.

**P665 Psychophysics of Hearing (3 cr.)** A critical analysis of current research in psychoacoustics: signal analysis, psycho-physical techniques, theories of detection and parameter extraction, frequency analysis, and binaural signal processing.

## Public Affairs

School of Public and Environmental Affairs  
Bloomington

Dean Astrid Merget

Departmental e-mail: [speainfo@indiana.edu](mailto:speainfo@indiana.edu)  
*Note: Be sure to specify the program in which you are interested when sending mail.*

Departmental URL:  
<http://www.indiana.edu/~speaweb/index.html>

### Graduate Faculty

University President Emeritus John Ryan

University Professor Emeritus York Willbern

Arthur F. Bentley Professor Lynton Caldwell (Emeritus)

Chancellors' Professor James Perry

Distinguished Professor Ronald Hites

Professors Robert Agranoff, David B. Audretsch, Randall Baker, William Black, Charles Bonser (Emeritus), Jeremy Dunning, Kirsten Gronbjerg, Hendrick Haijema, Roger Hamburg (SB) (Emeritus), Political Science), William Hojnacki (SB), \* Jack Hopkins (Emeritus), John Kirin (I), Robert Lehnen (I), Eugene McGregor, John Mikesell, Theodore Miller, Patrick O'Meara, Clinton Oster, John Ottensman (I) (Geography), David Parkhurst, Roger Parks, Joseph Pellicciotti (NIW), \* Maureen Pirog, J. C. Randolph, Edward Rhodes, Mark Rosentraub (I), Barry Rubin, Richard Rubin, Roy Shin (Emeritus), Timothy A. Tilton, Jeffrey White, Daniel Willard (Emeritus), Charles Wise, Lois Wise, Terrell Zollinger (I), Kurt Zorn

Associate Professors Kenneth Adams (I), Allen Anderson (K), Debra Backhus, Terry L. Baumer (I), Wolfgang Bielefeld (I), Lisa Bingham, Laku Chidambaram, Christopher Craft, \* David Good, Jane Grant\* (FW), Karen Harlow\* (I), Diane Henshel, Ann Holmes (I), Roger Jarjoura\* (I), Craig Johnson,\* Robert Kravchuk, Kerry Kruilla, Greg Lindsey\* (I), William Ludwin (FW), Joyce Man (I), David McSwane\* (I), Deborah Mesch (I), Samuel Nunn\* (I), C. James Owen\* (FW), D. Jeanne Patterson (Emerita), Flynn W. Picardal, Ingrid Ritchie\* (I), Marc Rodwin, Mary Tschirhart, Frank Vilardo\*

Assistant Professors Matthew Auer,\* John Gant,\* Vicky Meretsky,\* Kenna Quimet\* (I), David Reingold,\* Rafael Reuveny,\* Philip Stevens,\* Ming Tai-Seale,\* Susan Zimmer-Kemp\* (NIW)

An I after a faculty member's name indicates that the person teaches at Indiana University-Purdue University Indianapolis; FW, at Fort Wayne; K, at Kokomo; NW, at Gary; and SB, at South Bend.

Academic Advisor Professor Lois R. Wise,  
SPEA 441, (812) 855-2451

Degree Offered Doctor of Philosophy

### Doctor of Philosophy Degree

The doctoral program in Public Affairs builds on the unique strengths of SPEA's interdisciplinary faculty and research programs. The curriculum equips students with the necessary skills for independent research and analysis of problems, issues, and solutions in government and the nonprofit sector in the following three major fields:

1. Public Finance: the theory and practice of fiscal administration, including public budgeting, revenue administration, and financial management;
2. Public Management: the design and operation of governmental institutions including strategic/operations management and the complex interrelationships between public and private organizations; and
3. Public Policy Analysis: research methods and quantitative techniques for policy analysis, including the content, design and evaluation of public programs.

Instead of being grounded in a traditional academic discipline, each of the fields has developed from the application of several theoretical literatures to real-world public affairs problems. Thus, although research is grounded in the social sciences, the context of inquiry reverses the normal research process: instead of beginning with questions originating with discipline-based scholarship, the research process originates with public problems and issues. The research challenge, then, is to match available tools of inquiry to the research opportunities presented by problems.

**Admission Requirements** Students apply to the School of Public and Environmental Affairs and those accepted for doctoral studies in SPEA are recommended to the University Graduate School for formal admission into the Ph.D. program. Applicants to this program must have completed at least a bachelor's degree. Prospective students are required to submit (1) a statement of purpose, which should be as specific as possible and, preferably, should refer to potential research mentors by name; (2) official results of the Graduate Record Examinations (GRE); (3) official transcripts of all undergraduate and graduate work completed; and (4) three letters

of recommendation. Applicants whose native language is not English must also submit results of the Test of English as a Foreign Language (TOEFL).

**Advisory Committee** Early in the student's program, but in no case later than the third semester in the program, the student must form an advisory committee. The committee consists of four to five members and includes at least one faculty member from each of the student's two chosen major fields of study and also a representative of his or her minor field. The committee members act as mentors and help monitor the selection and fulfillment of program requirements. The chairperson of the committee serves as the student's principal advisor.

### Degree Requirements

**Fields of Study** Students must study two of the following three major fields that apply theory to public affairs problems: public finance, public management, or public policy analysis.

**Minor Field** In addition to these major fields, students must select a minor field according to their research interests. The minor field is designed in consultation with a faculty advisor and according to the rules of the University Graduate School.

**Professional Ethics and Teaching** Because of the unique and sensitive issues surrounding government ethics and public trust, all doctoral students are required to complete a seminar in the professional ethics and teaching of public affairs. This seminar is usually taken over two semesters, generally during the student's first year in the program.

**Course Requirements** In addition to the required course in Professional Ethics and Teaching, all students complete a core sequence of courses that includes a course in research design and methods in public affairs and three semesters of a workshop in public policy. Students without prior graduate work in a field related to public affairs are also required to take an introductory course in public affairs. Students must also complete a research skills sequence (a two-semester quantitative analysis sequence) and must demonstrate either (1) advanced proficiency in quantitative or qualitative analysis or (2) proficiency in a foreign language appropriate to their field of study. A two-course sequence of required courses plus two approved electives must be completed in each major field. The minor field requires a three- or four-course sequence of courses.

**Advisory Committee Review** During the third semester, the advisory committee meets with the student to review academic progress

and to approve the program of study. The committee reviews and approves any graduate course credits (with a maximum of 30 semester hours) that the student is permitted to transfer toward the program. Prior to completion of the fifth semester, the student will submit a research paper to the advisory committee and present the paper orally. The advisory committee will evaluate the paper and the presentation and will recommend to the Public Affairs Ph.D. Committee whether or not the student should be permitted to continue in the program.

**Qualifying Examination** To enter into formal degree candidacy, students must successfully complete written and oral qualifying examinations covering content from their two major fields of study.

**Dissertation** Upon completion of course work and all exams, the student writes a dissertation. This allows the student to apply the knowledge acquired during the formal parts of the program and to contribute to the advancement of the student's field of study.

## Public Management

School of Public and Environmental Affairs  
Bloomington

### Graduate Faculty

(See listing under Public Affairs.)

**Graduate Advisor** Professor Lois R. Wise,  
SPEA 441, (812) 855-2457

### Ph.D. Minor in Public Management

Students in a Ph.D. program at Indiana University may select public management as an outside minor.

#### Requirements

1. The doctoral candidate must secure an advisor from the faculty of the School of Public and Environmental Affairs (SPEA) in consultation with the director of the joint Ph.D. in Public Policy or the director of the Ph.D. in Public Affairs. The faculty advisor will serve as the representative of SPEA in all examinations and other requirements of the student's Ph.D. program that pertain to the minor.
2. The student must take at least 12 credit hours of SPEA graduate-level courses in public management. The choice of courses must be made in consultation with and approved by the advisor.
3. A minimum grade point average of 3.0 (B) must be attained in all courses used for the minor.

## Public Policy

### Combined Degree Program

College of Arts and Sciences

School of Public and Environmental Affairs  
Bloomington

**Director** Professor Roger Parks

**Departmental e-mail:** [speainfo@indiana.edu](mailto:speainfo@indiana.edu).

*Note: Be sure to specify the program in which you are interested in when sending mail.*

**Departmental URL:**  
<http://www.indiana.edu/~speaweb/index.html>

### Graduate Faculty

Department of Political Science

(See listing under Political Science.)

School of Public and Environmental Affairs

(See listing under Public Affairs.)

**Academic Advisor** Professor Roger Parks,  
SPEA 441, (812) 855-2457

**Degree Offered** Doctor of Philosophy

### Special Departmental and School Requirements

(See also general University Graduate School requirements.)

### Doctor of Philosophy Degree

The joint Ph.D. Program in Public Policy is a collaborative endeavor of the Department of Political Science and the School of Public and Environmental Affairs (SPEA).

The broad emphasis is on the field of public policy, which includes a concern with the environment of public policy; the processes of policy formation, management, and implementation; and the analysis and evaluation of policy outputs and results. The institutional setting and design of the program offer a unique educational opportunity.

Students participating in the program receive social science training and gain a knowledge of government decision-making processes and problem-solving capabilities, and an understanding of the substantive aspects of public problems and their effects on public institutions.

**Admission** All applicants seeking admission to the public policy program are subject to approval by a joint SPEA-Department of Political Science program admissions committee. Applicants for admission and for financial assistance are required to submit a statement of career goals, official results of the Graduate Record Examination (GRE), official

transcripts of all college-level and graduate work completed, and a minimum of three letters of recommendation. Students whose native language is not English must also submit results of the Test of English as a Foreign Language (TOEFL). The Joint Program Committee in Admissions and Financial Aid examines each application closely, seeking to determine suitability for the program. The committee goes beyond the formal academic record, looking also at the maturity and experience of the applicant, demonstrated ability to pursue independent study, and language and research-skill training.

**Advisory Committee** The advisory committee will consist of at least two faculty members from SPEA and two from the Department of Political Science. Members of the committee who hold joint appointments will be considered representatives of their primary unit. The chairperson of the committee serves as the student's principal advisor. Early in the student's program, but in no case later than the third semester after admission to the program, the committee will provide the student with a formal review of the progress made toward the degree.

### Degree Requirements

**Fields of Study** All students will be required to have public policy as a major field of preparation and specialization. In addition, each student must select one field of concentration in political science from the following: American politics, comparative politics, international relations, or political theory and methodology; and one field of concentration in public and environmental affairs from the following: environmental policy, public finance, urban affairs, and public management.

**Course Requirements** During the first year of study, all students will be expected to take Political Science Y570 Introduction to the Study of Politics; a research skill course such as Y575/Y576; and SPEA V690 Seminar in the Public Policy Process. Students are also required to take SPEA V691 Workshop in Public Policy for six semesters during their program. Due to the unique and sensitive issues surrounding professional ethics and public teaching, all doctoral students are required to complete a seminar in the professional ethics and teaching of public affairs. This seminar is usually taken over two semesters. All course work in the public policy field and the two concentration fields (one each in political science and SPEA) must be approved by the program director or the advisory committee after it is appointed. All courses must be completed with an overall grade point average of at least 3.0 before



nomination to candidacy for the Ph.D. degree. For specific courses acceptable for this degree, consult with the public policy doctoral advisor.

**Language and Research-Skill Requirements** During the first year of study, students are required to take a basic research-skill course (such as Y575/Y576, S554/S650, or the equivalent) in statistics approved by the major advisor and the dean of the University Graduate School. Students are also required to demonstrate proficiency-in-depth in a foreign language or to take one or more advanced research skill courses. Students will not be permitted to take qualifying examinations until these requirements are satisfied.

**Qualifying Examination** The qualifying examination is both written and oral. It covers the primary field of public policy and the two concentration fields.

**Dissertation** Following successful completion of the qualifying examination, the student shall arrange a dissertation committee subject to the approval of the program director. The committee shall consist of a chairperson, who shall serve as the student's principal advisor; at least two members from the Department of Political Science; and at least two members from SPEA. The responsibilities of the dissertation committee include granting formal approval of the student's research proposal, guiding the student's research agenda to completion, and conducting the formal defense of the dissertation. Following a satisfactory defense of the dissertation, the committee will recommend to the University Graduate School that the candidate be awarded the degree Doctor of Philosophy.

## Regional Economic Development

School of Public and Environmental Affairs  
Bloomington

### Graduate Faculty

Professors David Audretsch, Randall Baker, Charles Bonser (Emeritus, Business), Dennis Conway (Geography), Marc Dollinger (Business), Jeffrey Hart (Political Science), F. Robert Jacobs (Business), Bruce Jaffee (Business), Heepon Kang (Business), Daniel Knudsen (Geography), Joseph Miller (Business), John Odland (Geography), Maureen Pirog-Good, Brian Powell (Sociology), J.C. Randolph (Biology), Barry Rubin, Roy Shin (Emeritus)

**Associate Professors** Michael McGregor  
(Telecommunications)

**Academic Advisor** Professor David  
Audretsch, SPEA 201, (812) 855-6766

### Ph.D. Minor in Regional Economic Development

Students in a Ph.D. program at Indiana University may select regional economic development as an outside minor.

**Program Description** The minor field in Regional Economic Development provides study in the topics facing regional planners, developmental specialists, and researchers, and introduces the student to the body of knowledge in regional development. Students apply this knowledge by broadening their perspective in their major course of study or in a research agenda that incorporates regional development questions. The student is expected to have a background in both micro- and macroeconomics prior to participating in the program.

**Requirements** The doctoral candidate must secure an advisor from the faculty of the School of Public and Environmental Affairs. The minor in regional economic development requires 12 credit hours of approved courses, which must include two core courses and six hours of electives. The core curriculum consists of a topics course and a general-methodology course (if the required methodology course has been completed as requirement for the student's major, an additional elective must be taken to fulfill the minor requirement). The topics course is V669, "Research Seminar in Regional Analysis and Planning." This course is cross-listed as G617 "Seminar in Regional Geography." The last two courses may come from a variety of disciplines and are subject to the approval of the student's minor advisor. Some examples are listed below.

### Required Courses

**V669 Research Seminar in Regional Analysis and Planning (3 cr.)** Graduate status or consent of instructor. Introduction to regional development, effects of technological and demographic change, and development strategies for regions and non-metropolitan areas. The course is cross-listed as G617 Seminar in Regional Geography.

### General Departmental Methodology Courses Accepted

School of Public and Environmental Affairs  
E538 Environmental Statistics (3 cr.)  
V507 Data Analysis and Modeling for Public Affairs (3 cr.)

### Economics

E572 Statistical Techniques in Economics II  
(3 cr.)

### Geography

G504 Advanced Quantitative Methods in Geography (3 cr.)

### Political Science

Y575 Political Data Analysis I (3 cr.)

Y576 Political Data Analysis II (3 cr.)

## Religious Studies

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Robert Orsi

**Departmental e-mail:** religion@indiana.edu

**Departmental URL:**

<http://www.indiana.edu/~relstud>

### Graduate Faculty

**Chancellors' Professor** Stephen J. Stein

**Rabindranath Tagore Professor of Indian Cultures and Civilizations** Gerald J. Larson  
(India Studies)

**Finkelstein Fellow** Richard B. Miller

**Professors** James Ackerman (Emeritus), James Hart, Robert Orsi, J. Samuel Preus (Emeritus), David Smith, Mary Jo Weaver,

**Associate Professors** David Brakke,\* Robert Campney, David Haberman, John McRae, Jan Nattier, Michael Satlow, Steven Weitzman\*

**Assistant Professor** Quinton Dixie\*

**Adjunct Professors** Daniel Conkle (Law), Dyan Elliott (History)

**Adjunct Associate Professors** Stephen Bokenkamp (East Asian Languages and Cultures), Jamsheed Choksy (Near Eastern Languages and Cultures), Herbert Marks (Comparative Literature)

**Director of Graduate Studies** Professor Jan Nattier, Sycamore Hall 219, (812) 855-3532

**Degrees Offered** Master of Arts and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

Graduate Record Examination General Test. In addition, Ph.D. applicants must submit a writing sample. Specific deadlines and expectations are spelled out in the Student Guide, available in the department office.

## Master of Arts Degree

**Grades** B (3.0) average; B or higher for each course.

**Course Requirements** A total of 30 credit hours, including R665, at least two other 600-level seminars, and 3 credit hours in each of the three divisions of the M.A. curriculum (religious traditions in the West, religious traditions in the East, critical issues in religious studies). Students choosing to write a thesis will register for 6 credit hours of R699; those opting for the language study project, 6 credit hours of R698. The distribution requirement is satisfied by taking courses in the Department of Religious Studies, or cross-listed courses.

**Language Work** All M.A. students must demonstrate proficiency in one scholarly language. Usually this language is German or French, although another may be chosen if it is relevant to the student's program.

### Thesis/Language Study Project/Examination

**Option** Students may complete degree requirements in one of three ways: (1) by writing a thesis, (2) by carrying out a language study project, or (3) by passing a comprehensive examination. The thesis option involves six credit hours of research and writing in addition to 24 hours of coursework.

A thesis is generally 60-100 pages and focuses on a theme, problem, and/or historical movement in the study of religion. The language study option involves use of a foreign language in which the primary or significant secondary sources of a religious tradition are written (e.g., Hebrew, Greek, Sanskrit, Chinese). The student must (a) demonstrate competence in the language (normally by passing an examination administered by the department) and (b) prepare a scholarly, annotated translation into English of a religious text written in that language, together with an introduction dealing with its historical and cultural context and significance. Students opting for the comprehensive examination may not take the examination until they have completed 30 credit hours of course work. The examination is in two parts: a) general field examination and (b) area examination in the student's field of specialization.

### Doctor of Philosophy Degree

**Admission Requirements** (1) Completion of an M.A. degree in the study of religion at Indiana University or another recognized institution, (2) a superior record in religious studies, (3) proficiency in one of the required languages, and (4) review and approval by a field committee consisting of faculty in the student's major area of interest.



**Grades** No grades below B (3.0) will be counted toward this degree.

**Areas for Doctoral Study** Track 1 (Critical and Ethical Studies) pays particular attention to problems of ethics and social theory as they relate to specific traditions of religious thought and practice. Track II (Cross-Cultural Studies) focuses on one or more religious traditions in one or more geographic and historical settings, building on resources in the history and methods of the comparative study of religion. Track III (Biblical Interpretation) examines Jewish and Christian Bibles and the history of their interpretation, drawing on tools in literary theory and criticism. Track IV (Historical Studies) features inquiry into one religious tradition or the religious history of one geographical/cultural setting. Please note that the four Ph.D. tracks do not correspond to the curriculum divisions listed for M.A. courses.

**Course Requirements** Doctoral students must earn 90 hours of graduate credit, no more than 30 of which may be transferred from other institutions. The department allows up to 30 hours of M.A. credit toward the doctorate, which means that doctoral students must earn 60 hours of credit beyond the M.A. Up to 30 of the total 90 hours may be designated as thesis hours (R699, R799, G901). Thus, students whose 30 M.A. hours include 6 hours of thesis credit will earn 36 credit hours of course work and 24 hours of thesis at the Ph.D. level.

Course work requirements beyond the M.A. degree include one track seminar (3 credit hours), four 700-level courses (12 credit hours), R790, a 1-credit hour course devoted to the development of teaching skills, and an outside minor (12 credit hours). Students who have not completed their M.A. at Indiana University are normally required to take R665 as well. The remaining credit hours come from enrollment in G901 Advanced Research and R799 Ph.D. Thesis. Doctoral students are also required to produce three research papers prior to taking comprehensive exams. These papers will normally develop out of students' 700 level seminars, although they may grow out of other research projects as well. Papers should be modeled on a submission to a refereed journal in the student's main area of interest and should follow that journal's requirements for length and documentation (e.g., Turabian, MLA). Research papers must be approved for the student's file by a professor, but students may not secure approval for more than two papers from the same professor. Length is normally 20-25 pages, not counting endnotes. An approved research paper may not be a language translation, a bibliographical essay, a text edition, or a set of field notes. Annotated

translations may be accepted with approval of the graduate committee. For details, consult the Director of Graduate Studies.

**Language Work** All candidates will be required to show proficiency in two modern languages of scholarship (French or German) and any necessary primary source languages required by their field. Another modern language may be substituted for French or German with the approval of the director of graduate studies and the student's advisors. Skill levels for primary source languages will be determined through departmental examinations in cooperation with other departments where appropriate.

**Qualifying Examinations** "Qualification for (or Admission to) Candidacy" means being authorized to embark on a dissertation project by passing the qualifying examinations and having a dissertation proposal approved by a research committee. Exams are set and supervised by the advisory committee after all residency requirements are completed.

Normally, they consist of three four-hour written exams plus an oral exam, all taken within a three-week period. Exams are initially taken *in toto*, but may be retaken once a whole or in part at the discretion of the committee.

**Termination of Enrollment in the Doctoral Program** If a doctoral student fails the oral written examination two times, fails the oral qualifying examination two times, falls below a 3.0 grade point average, or fails to complete the written and oral examinations by the end of the approved length of time, the director of graduate studies, in consultation with the advisory committee, can initiate steps to terminate the student's enrollment in the program.

**Final Examination** Oral defense of dissertation.

**Ph.D. Minor in Religious Studies** Students electing the study of religion as an outside minor in a doctoral program will be required to complete 12 credit hours of course work. A maximum of 6 credit hours may be transferred from other institutions or taken from cross-listed courses. At least 6 credit hours are to be taken in the department.

## Courses

500 level courses are attached to upper-level undergraduate courses. 600 and 700 level courses are graduate seminars and usually require instructor's permission to enroll. 700 level courses are normally reserved for doctoral students.

## A. Required and Track Seminars

**R661 Religion and Social Criticism (3 cr.)** Track I seminar. Religion and social practices, with emphasis on religion and rationality, religion and culture, and religion and the self.

**R662 Cross-Cultural Study of Religions (3 cr.)** Track II seminar. Historical survey of the development of cross-cultural studies of religious traditions and analysis of the intellectual issues entailed in such studies.

**R663 History of Biblical Interpretation (3 cr.)** Track III seminar. Chronological introduction to the most influential works of biblical interpretation, from antiquity to the present. Readings in Jewish, Christian, and esoteric sources will include both commentary and hermeneutic theory.

**R664 Religious Historiography (3 cr.)** Track IV seminar. Survey of significant approaches to the history of religious traditions.

**R665 Interpretations of Religion (3 cr.)** Major theories and current problems. Required of all departmental graduate students.

**R661 Religion and Social Criticism (3 cr.)** Meets concurrently with R661, with additional reading and research assignments.

**R762 Cross-Cultural Study of Religion (3 cr.)** Meets concurrently with R662, with additional reading and research assignments.

**R763 History of Biblical Interpretation (3 cr.)** Meets concurrently with R663, with additional reading and research assignments.

**R764 Religious Historiography (3 cr.)** Meets concurrently with R664, with additional reading and research assignments.

## B. Religious Traditions in the West

**R511 Religion of Ancient Israel (3 cr.)** Survey of scholarship related to specific subfield of ancient Israelite religion. May be repeated for credit when topics vary.

**R521 Studies in Early Christianity (3 cr.)** Study of the New Testament, early Christian history and thought, or the religious milieu of late antiquity, with special attention to issues of methodology and critical scholarship. May be repeated for credit when topics vary.

**R531 Studies in Christian History (3 cr.)** Study of primary and secondary sources in select eras of Western Christian history, such as the medieval, Renaissance, Reformation, and early modern periods. May be repeated for credit when topics vary.

**R532 Studies of Religion in American Culture (3 cr.)** Study of selected topics in the history of religious life and thought in America. May be repeated for credit when topics vary.

**R533 Selected Topics in Modern Christian Thought (3 cr.)** Topics on figures and movements: Barth, Berdyaev, Newman,

Teilhard de Chardin, Niebuhr, and Tillich; Catholic modernism, Protestant liberalism and neoorthodoxy, Vatican Council II and its aftermath, developments in Eastern Orthodoxy. May be repeated for credit when topics vary.

**R541 Studies in the Jewish Tradition (3 cr.)** Study of various aspects of medieval and modern Jewish literature, religion, and thought. May be repeated for credit when topics vary.

**R553 Studies in Islam (3 cr.)** Selected topics in the history of Muslim society and institutions, sectarian developments, law, theology, mysticism, popular piety, and reform movements in medieval and modern contexts. May be repeated when topics vary.

**R610 Studies in Biblical Literature and Religion (3 cr.)** Issues in the literature, history, and religion of ancient Israel from its origins to the rise of rabbinic Judaism and Christianity. May be repeated for credit when topics vary.

**R615 The Bible in Literature Courses (3 cr.)** The historical-cultural background of the biblical period, literary analysis of the Bible, and analysis of modern literature dependent on the Bible. Designed for teachers of English.

**R620 Ancient and Medieval Christianity (3 cr.)** Issues in the history and literature of early Christianity from its origins through the early medieval period. May be repeated for credit when topics vary.

**R630 Historical Studies (3 cr.)** Development of Western religions in their cultural setting. May be repeated once for credit when topics vary.

**R635 Colloquium on North American Religious History (3 cr.)** Examination and discussion of selected historiography in the field of North American religious history. May be repeated once for credit when topics vary.

**R644 History and Culture in Islam (3 cr.)** Selected topics focusing on critical approaches to Islamic historiography, canon formation, modes of religious authority, scriptural and other forms of textual interpretation, epistemology, and theological discourse. May be repeated once for credit when topics vary.

**R652 Colloquium on Religion in the West (3-9 cr.)** P: consent of instructor. Readings and research on patterns of religious life and thought in the West: continuities, changes, and contemporary issues. May be repeated once for credit when topics vary.

## C. Religious Traditions in the East

**R547 Meditation Traditions of India (3 cr.)** Survey and analysis of the practice of meditation in Hindu, Buddhist, and Jain traditions of India. Focus on the philosophical and structural basis of meditation and the relation of meditation to the monastic traditions of India. The role of the holy person

- and importance of the guru-student relationship.
- R551 Religions of South Asia (3 cr.)** Study of the major religious traditions of India: Hinduism, Buddhism, Jainism. May be repeated for credit when topics vary.
- R552 Studies in Buddhism (3 cr.)** Topics include the history of Buddhist thought, practice, literature, and institutions. Areas covered regularly include the Prajnaparamita and Ratnakuta literature, lay and monastic roles in Mahayana Buddhism, images of women in Buddhist literature, and aspects of early Buddhist thought. May be repeated for credit when topics vary.
- R554 Religions of East Asia (3 cr.)** Study of historical, interpretive, or philosophical issues in one period, genre, or aspect of an East Asian religion. May be repeated for credit when topics vary.
- R649 Issues in the Study of Chinese Religions (3 cr.)** Introduction to bibliographic materials, research problems, history of the field, and current issues. Includes a condensed overview of Chinese religious history from the earliest records to the present.
- R650 The Hindu Tradition (3 cr.)** Selected topics in Hindu religious history: sects, institutions, texts, doctrines, periods. May be repeated for credit when topics vary.
- R651 South Asian Buddhism (3 cr.)** Selected topics in South and Southeast Asian Buddhism from the earliest to the modern period. May be repeated for credit when topics vary.
- R653 The Confucian Tradition (3 cr.)** Selected topics in Confucianism: history, philosophy, literature, authors. May be repeated for credit when topics vary.
- R654 The Taoist Tradition (3 cr.)** Selected topics in the Taoist tradition. May be repeated for credit when topics vary.
- R655 East Asian Buddhism (3-9 cr.)** Selected topics in the Buddhist traditions of East Asian countries. May be repeated for credit when topics vary.
- R656 Buddhism in Central Asia (3 cr.)** P. graduate-level background in Buddhism or Central Asian studies or consent of instructor. Issues in the history of Buddhism in Central Asia (Afghanistan, Uzbekistan, Xinjiang) from King Ashoka (third century B.C.E.) to the coming of the Mongols (thirteenth century C.E.). May be repeated for credit when topics vary.
- R657 Religion in Japan (3 cr.)** Selected topics in Japanese religious history. May be repeated for credit when topics vary.
- R658 Materials and Methods in Buddhist Studies (3 cr.)** Introduction to bibliographic materials, research methods, and current issues in the field of Buddhist studies. Includes
- a condensed overview of the history of Buddhism from its origins to the present.
- R659 Religion and Society in Asia (3 cr.)** Selected topics in the interaction between religion and society in Asian countries. May be repeated for credit when topics vary.
- R749 Issues in the Study of Chinese Religions (3 cr.)** Meets concurrently with R649. In addition, student will carry out research on appropriate Chinese materials in consultation with instructor.
- R750 Advanced Readings in Asian Religious Texts (1-4 cr.)** Readings in primary-language Chinese, Japanese, Mongolian, Pali, Sanskrit, Tibetan, or other texts. May take the form of a seminar or of individually directed readings. May be repeated for credit when different texts are read and with consent of instructor.
- D. Critical Issues in Religious Studies**
- R561 Social-Scientific Approaches to Religion (3 cr.)** Study of various social-scientific disciplines (psychology, sociology, anthropology) as their methods and theories inform our understanding of religious phenomena. May be repeated for credit when topics vary.
- R563 Religion in Literature (3 cr.)** Study of religious issues raised in literary works. May be repeated for credit when topics vary.
- R571 Studies in Religious Ethics (3 cr.)** Selected readings in religious thought and morality. May be repeated for credit when topics vary.
- R581 Philosophical Approaches to Religion (3 cr.)** Study of selected philosophers, philosophical movements, or philosophical themes as they relate to religious studies or theology. May be repeated for credit when topics vary.
- R604 Seminar in Cross-Cultural Philosophy of Religion (3 cr.)** Critical analysis of issues in the philosophy of religion in comparative perspective. The manner in which philosophical issues are framed in Indian, European, Chinese-Japanese, and Middle Eastern thought. Attention to the critique of Orientalism and critical theory in recent comparative philosophy.
- R670 History of Religious Ethics (3 cr.)** Readings of major ethical texts in key periods. Topics vary according to major religious traditions. May be repeated for credit when topics vary.
- R672 Religious Thought and Ethics (3 cr.)** Key figures, issues, and movements. May be repeated for credit when topics vary.
- R673 Religion and Violence (3 cr.)** Topics course on the relation between religious belief and practice and violence. Readings draw from ethics, history, and social theory. Topics include peace traditions; just-war tradition;
- religious sacrifice; and cultural order. May be repeated with consent of instructor.
- R674 Ethics and Ethos (3 cr.)** Exploration of the relation between ethics and ethos, that is, between human agency and the social, political, and religious conditions in which that agency is exercised. Introduction to currents in moral theory presupposed in subsequent ethics courses.
- R675 Feminist Perspectives on Religious Traditions (3 cr.)** Topics course which includes a focus on one or more of the following: goddess traditions; Western or Eastern feminist theology; comparative feminist theology; feminist encounters with American religion; recovering women's contributions to Eastern or Western religions. May be repeated for credit with permission of instructor.
- R680 Religion and the Problems of Modernity (3 cr.)** Topics course on problems posed to religion by recent developments, e.g., disbelief, pluralism, secularization, technology, rapid socioeconomic and political change, class conflict, historical consciousness. May be repeated for credit when topics vary.
- E. Other Seminars, Readings, and Research**
- R590 Directed Readings in Religious Studies (1-6 cr.)**
- R600 Methods in Religious Studies (3 cr.)** Seminar in methodology, e.g., historiography, interpretation theory, ethnography in the study of religion. May be repeated when topics vary.
- R601 Historical Interactions of Religion (3 cr.)** Study of secondary and primary literature (in translation) on interaction between two or more religious cultures. May be repeated for credit when topics vary.
- R602 Cross-Cultural Topics (3 cr.)** Study of selected myths, rituals, institutions, or doctrines, in different cultural settings. May be repeated for credit when topics vary.
- R603 Seminar in Comparative Mysticism (3 cr.)** Critical and comparative analysis of selected mystical traditions from India, Europe, China-Japan, and the Middle East. Typologies of mysticism will be studied together with an attempt to formulate a critical definition of "mysticism."
- R638 Religious Dissent (3 cr.)** Selected topics in the study of dissenting religious traditions. May be repeated once for credit when topics vary.
- R660 Religion and Culture (3 cr.)** Religious dimensions of cultural phenomena. May be repeated for credit when topics vary.
- R698 Master's Research Project (3-6 cr.)\*** Study of religious texts.
- R699 Thesis (M.A.) (1-6 cr.)\***
- F. Additional Doctoral Courses**
- R711 Religion and Scripture (3 cr.)** Selected topics on the nature, function, and interpretation of scripture, both oral and written, within specific religious traditions or in cross-cultural perspective. May be repeated for credit when topics vary.
- R713 Historical Studies in Western Religions (3 cr.)** Selected topics in the histories of Judaism, Christianity, or Islam in the ancient and medieval periods, with study of primary sources in the original language(s). May be repeated for credit when topics vary.
- R735 North American Religions (3 cr.)** Research on selected topics. May be repeated once for credit when topic changes.
- R738 Modern Religious History (3 cr.)** An investigation of developments in religion in the modern period (mid-seventeenth century to the present) in a variety of religious and cultural settings. Topics include Catholicism and modernity; modern Protestant Christianity; religious development in China, India, or Japan in the postcolonial period. May be repeated for credit when topics vary.
- R744 Women and Religion (3 cr.)** Research seminar on selected topics from ancient, medieval, or modern period in any religious traditions, or in comparative religious traditions. May be repeated once for credit when topic changes.
- R770 Social Ethics (3 cr.)** Research seminar on selected topics, including subtraditions in religion, historical developments in a religious tradition, comparative religious ethics, medical ethics. May be repeated with consent of instructor.
- R780 Topics in Religious Philosophy (3 cr.)** A focus on selected authors, e.g., Plotinus, Augustine, Husserl, Patanjali, Shankara, Chu Hsi, and/or philosophical movements, e.g., German idealism, existentialism, phenomenology, yoga, Madhyamika Buddhism, Vedanta, that are formative for religious or theological thought. May be repeated for credit when topics vary.
- R790 Departmental Teaching Practicum (1 cr.)** Preparation of syllabus, bibliography, assignments, and exams for undergraduate religion courses.
- R791 Advanced Critical and Ethical Study (1-3 cr.)** Individually directed reading and research for doctoral students in critical and ethical problems in religion. May be repeated for credit when topics vary.
- R792 Advanced Cross-Cultural Study (1-3 cr.)** Individually directed reading and research for doctoral students in cross-cultural study of religions. May be repeated for credit when topics vary.

**R793 Advanced Biblical Study (1-3 cr.)**  
Individually directed reading and research for doctoral students in biblical interpretation.

May be repeated for credit when topics vary.

**R794 Advanced Historical Study (1-3 cr.)**  
Individually directed reading and research for doctoral students in historical study of religious traditions. May be repeated for credit when topics vary.

**R799 Ph.D. Thesis (1-30 cr.)**

## Renaissance Studies

**College of Arts and Sciences  
Bloomington**

**Director** Professor Giancarlo Maiorino

**Interdepartmental Graduate Committee on**

**Renaissance Studies** Professor Giancarlo

Maiorino (Comparative Literature),

Chairperson; Distinguished Professors Peter

Bondanella (French and Italian), Bruce Cole

(Fine Arts); Professors J. Peter Burkholder

(Music), Richard Carr (French and Italian),

Edward Friedman (Spanish and Portuguese);

Associate Professors Ann Carmichael (History

and Philosophy of Science), Linda Charnes

(English), Catherine Larson (Spanish and

Portuguese)

## Graduate Faculty

**Distinguished Professors** Willis R.

Barnstone (Emeritus, Comparative Literature),

Peter Bondanella (French and Italian), Bruce

Cole (Fine Arts), Mark Musa (Emeritus, French

and Italian), Gerald Strauss (Emeritus,

History)

**Professors** Judith Anderson (English), Frank

Banta (Emeritus, Germanic Studies), Gustav

Bayle (Emeritus, Central Eurasian Studies),

Luis Beltrán (Emeritus, Spanish and

Portuguese), Michael Berkvam (French and

Italian), Ernest Bernhardt-Kabisch (Emeritus,

English), Peter Boerner (Emeritus, Germanic

Studies), Leon Brauner (Theatre and Drama),

Yuri Bregel (Emeritus, Central Eurasian

Studies), George Buelow (Emeritus, Music), J.

Peter Burkholder (Music), Diana Carr (Emerita,

French and Italian), Richard Carr (French and

Italian), Austin Caswell (Emeritus, Music),

Stephen Conrad (Law), Raymond DeMallie

(Anthropology), Georges Edelen (Emeritus,

English), Frank Edmondson (Emeritus,

Astronomy), Paul Eisenberg (Philosophy),

Jurgis Elisonas (East Asian Languages and

Cultures), Molly Faries (Fine Arts), Charles

Forker (Emeritus, English), Edward Friedman

(Spanish and Portuguese), Robert Fulk

(English), Thomas Gieryn (Sociology), Kenneth

R.R. Gros Louis (English), James Halporn

(Emeritus, Classical Studies), Iliya F. Hanik

(Political Science), Roger Herzog (Theatre and

Drama), Quentin Hope (Emeritus, French and

Italian), Olga Impey (Spanish and Portuguese),

H. James Jensen (English), Howard Jensen

(Theatre and Drama), Sidney Johnson

(Emeritus, Germanic Studies), Herbert Kaplan

(Emeritus, History), Oscar Kenshur

(Comparative Literature), Eleanor Leach

(Classical Studies), Edoardo Lebramo (Emeritus,

French and Italian), Peter Lindenaar

(English), Consuelo López-Morillas (Spanish

and Portuguese), Giancarlo Maiorino

(Comparative Literature), Bradford G. Martin

(Emeritus, History), Michael Morgan

(Philosophy), Helen Nader (History), George

Nakhmikian (Emeritus, Philosophy), Paul

Newman (Linguistics), Thomas Noblitt

(Emeritus, Music), Christopher Peebles

(Anthropology), J. Samuel Preus (Emeritus,

Religious Studies), Eberhard Reichmann

(Emeritus, Germanic Studies), James Riley

(History), Benito Rivera (Music), Samuel

Rosenberg (Emeritus, French and Italian),

Kathleen Rowold\* (Apparel Merchandising and

Interior Design), William Shetter (Emeritus,

Germanic Studies), Paul Spade (Philosophy),

Paul Strohm (English), Lynn Struve (History),

Ian Thomson (Emeritus, Classical Studies),

William Trapnell (Emeritus, French and Italian),

Stephen Watt (English), Marc Weiner

(Germanic Studies), Albert Wertheim (English),

William Wiatt (Emeritus, English), William

Wiedhoff (Communication and Culture), David

Zaret (Sociology), Malvin Zirkler (Emeritus,

English)

**Associate Professors** Reed Benhamou\*

(Apparel Merchandising and Interior Design),

Martin Burkhead (Emeritus, Astronomy), Ann

Carmichael (History), Linda Charnes (English),

Arthur Field (History), Mona Houston (French

and Italian), S. Catherine Larson (Spanish and

Portuguese), Roy Leake (Emeritus, French and

Italian), Sheila Lindenbaum\* (English), Eric

MacPhail (French and Italian), Charles Peet

(Emeritus, English), Wesley Peters\* (Theatre

and Drama), Russell Pfohl (Emeritus, French

and Italian)

**Assistant Professor** Joan Linton\* (English)

**Academic Advisor** Professor Giancarlo

Maiorino, Ballantine Hall 466, (812) 855-0648

## Ph.D. Minor in Renaissance Studies

**Course Requirements** Four courses in the

Renaissance period: R501, R502, and two

additional courses in any other department.

Selection of courses should be made in

consultation with the chairperson of the

Renaissance Studies Committee. Students

should also seek approval for the minor from

their respective departments.

**Grades** Minimum of a B (3.0) in all courses

that count toward the minor.

**Examination** None.

## Area Certificate in Renaissance Studies

Renaissance studies offers an area certificate, which enables doctoral students to investigate Renaissance civilization more extensively than in the Ph.D. minor program.

**Course Requirements** Nine courses in the Renaissance period: R501, R502, two courses outside the home department, and five courses in any other department. The selection of courses not in the student's major department should be made in consultation with the chairperson of the Renaissance Studies Committee.

**Grades** Minimum of a B (3.0) in all courses that count toward the certificate.

**Examination** None.

## Courses

**R501 The Culture of the Renaissance (4 cr.)** A cross-cultural course that examines the European Renaissance as a whole.

**R502 Topics in Renaissance Civilization (4 cr.)** A cross-cultural course in which specific topics, problems, and themes are analyzed in the context of the European Renaissance as a whole. May be repeated.

**R503 Independent Projects in the Renaissance (3-4 cr.)** Independent projects on Renaissance topics for advanced research to be chosen in consultation with the chairperson of the Renaissance Studies Committee.

## Russian and East European Institute

**College of Arts and Sciences  
Bloomington**

**Director** Professor David L. Ransel

**Departmental e-mail:** [ree@indiana.edu](mailto:ree@indiana.edu)

**Departmental URL:**

<http://www.indiana.edu/~ree/web/>

## Graduate Faculty

**Distinguished Professors** Robert W. Campbell (Emeritus, Economics), Linda Dégh (Emerita, Folklore), Denis Sinor (Emeritus, Central Eurasian Studies, History), Nicolas Spulber (Emeritus, Economics)

**Professors** Michael Alexeev (Economics), Robert Arnoe (Education), Ilhan Başgöz (Emeritus, Central Eurasian Studies), Gustav Bayerle (Emeritus, Central Eurasian Studies), Jacob Bielasiak (Political Science), Leon I.

Brauner (Theatre and Drama), Yuri Bregel (Emeritus, Central Eurasian Studies), Malcolm Brown (Emeritus, Music), Matei Calinescu (Emeritus, Comparative Literature), Henry R. Cooper Jr. (Slavic Languages and Literatures), Gyula Décsy (Central Eurasian Studies), William Edgerton (Emeritus, Slavic Languages and Literatures), Ronald Feldstein (Slavic Languages and Literatures), Steven L. Franks (Slavic Languages and Literatures), Roy J. Gardner (Economics), Jeffrey Hart (Political Science), Charles Jelavich (Emeritus, History), Herbert Kaplan (Emeritus, History), Janet Kennedy (Fine Arts), W. Eugene Kleinbauer (Fine Arts), Hiroaki Kuromiya (History), Paul Marer (Emeritus, Business), Howard

Mehlinger (Emeritus, Education), John Mikessell (School of Public and Environmental Affairs), Bernard Morris (Emeritus, Political Science), Christine Ogan (Journalism), Felix Oinas (Emeritus, Central Eurasian Studies, Slavic Languages and Literatures), Nina M. Perlina (Slavic Languages and Literatures), Alexander Rabinowitch (Emeritus, History), David L. Ransel (History), Toivo Raun (Central Eurasian Studies, History), Alvan Rosenfeld (Jewish Studies), M. Nazif Shahrani (Anthropology, Central Eurasian Studies, Near Eastern Languages and Cultures), Mihály Szegedy-Maszák (Comparative Literature, Central Eurasian Studies), Cornelis Van Schooneveld (Emeritus, Slavic Languages and Literatures), Bronislava Volkova (Slavic Languages and Literatures), Charles Wise (School of Public and Environmental Affairs)

**Associate Professors** Joëlle Bahloul (Anthropology), Bonnie Brownlee\* (Journalism), Devin DeVeesse\* (Central Eurasian Studies), Andrew Durkin (Slavic Languages and Literatures), John Efron\* (History), A. Benoit Eklof (History), William Fierman (Central Eurasian Studies), George Fowler\* (Slavic Languages and Literatures), Michael Hamburger (Geological Sciences), Jeffrey Isaac (Political Science), Owen V. Johnson (Journalism, History), Michael Kaganovich (Economics), Dodona Kiziria\* (Slavic Languages and Literatures), Vadim Lipunov (Slavic Languages and Literatures), Philip Parnell (Criminal Justice), Jean C. Robinson (Political Science), Bozena Shallcross (Slavic Languages and Literatures), Dina Spechler (Political Science), Beverly Stoelje (Folklore), Timothy Wiles (English), Ilina Zarifopol-Johnston\* (Comparative Literature)

**Assistant Professors** Maria Bucur-Deckard\* (History), Bob Travica\* (Library and Information Science)

**Academic Advisor** Professor David L. Ransel, Ballantine Hall 565, (812) 855-7309

## Degree Programs

REEI offers a Master of Arts program in Russian and East European Studies and four dual degree programs with the School of Business, the School of Library and Information Science, and the School of Public and Environmental Affairs. The M.A., M.A./M.B.A., M.A./M.I.S., M.A./M.L.S., and the M.A./M.P.A. programs give students a broad understanding of the geographical area and its peoples, while allowing them the opportunity to examine in depth the aspect of Russian and East European studies that most interests them. Students may focus on the study of Russia; another country or region of the former Soviet Union; or East Central or Southeastern Europe. Within their chosen geographic area, students may concentrate on the study of a particular discipline (business, history, library and information science, political science, literature, public and environmental affairs, or some other) while also taking courses outside of that discipline. REEI also offers a Graduate Certificate Program and a Ph.D. Minor Program.

## Master of Arts Degree

The REEI master's degree program is intended to prepare students as area specialists for work in nonacademic careers in government and in such private-sector fields as research, aid, or exchange organizations, journalism, and business. Students may also choose to follow the REEI degree with advanced graduate studies. The program normally takes two years to complete. Its aim is to provide a broad interdisciplinary introduction to the Russian and East European area, with language competency appropriate for professional research.

**Admission Requirements** Bachelor's degree with evidence of superior ability and completion of the Graduate Record Examination. Students who intend to specialize in East Central, Southeast European, or Central Asian studies do not need previous study in languages of those areas for admission. For work in Russian area studies, proficiency in Russian language equivalent to two years of college study is required.

**Course Requirements** Thirty credit hours of graduate course work to be distributed as follows: (1) R600 Proseminar in Russian and East European Area Studies (3 credits) to be taken the first fall semester of enrollment; (2) four courses (3 credits each) from area studies offerings, one each from the social science group, historical/geographical group, sociocultural group, and literature group; (3) four courses (3 credits each) in area of concentration. The concentration can be

disciplinary, e.g. comparative communist and post-communist politics, or business and economics; or it can be geographic, e.g., East Central Europe or Russia; and (4) R601 Interdisciplinary Colloquium in Russian and East European Studies (3 credits). All course requirements must be completed with an average grade of B or above.

**M.A. Essay and Interdisciplinary Oral Examination** The Interdisciplinary Colloquium in Russian and East European Studies (R601) paper often becomes the basis of the M.A. essay. The essay must be interdisciplinary in focus and use considerable research in the language of concentration. Three REEI faculty members must evaluate the essay, approve its content, and administer an oral examination that explores the interdisciplinary implications of the essay within the context of the student's graduate course work. The essay should not exceed 13,000 words in length (not counting footnotes/endnotes or tabular material).

**Language Requirement** Successful completion of the Russian and East European Oral Proficiency Examination requires a knowledge of Russian at intermediate-high level or knowledge of another area language at the second-year level. Language courses do not count toward the REEI degree requirements, but may be necessary to ensure proficiency.

The REEI Oral Proficiency Examination in Russian takes approximately 45 minutes and requires that the student demonstrate an intermediate-high level of proficiency by: (1) participating in a tape-recorded oral interview with a certified oral proficiency tester (10-25 minutes); and (2) orally translating a passage from an article (150 words) into English. For the translation section of the exam, the student will be given 15 minutes to prepare the passage and may use a dictionary.

The REEI Oral Proficiency Examination in other area languages takes approximately 30 minutes and requires that the student demonstrate second-year (intermediate) proficiency by (1) carrying on a conversation on everyday topics in the language; (2) presenting a brief talk (five minutes) on a subject in the student's field and answering questions on the subject matter presented; and (3) orally translating a passage from an article (75 words) into English. For the translation section of the exam, the student will be given 15 minutes to prepare the passage and may use a dictionary.

## Dual Master of Arts in Russian and East European Studies and Master of Business Administration (M.A./M.B.A.)

The Russian and East European Institute and the Kelley School of Business jointly offer a three-year program that qualifies students for a dual master's degree. Study for the dual degree (M.A./M.B.A.) can be combined for a total of 64.5 credit hours rather than the 84 credit hours required for the two degrees taken separately.

**Admission Requirements** Same as for the Master of Arts degree except that application must also be made to the Kelley School of Business for study toward the Master of Business Administration degree. Students must be accepted by both units in order to be admitted to the program.

**REEI Course Requirements** Twenty-four credit hours of graduate course work to be distributed as follows: (1) R600 Proseminar in Russian and East European Area Studies (3 credits) to be taken the first fall semester of enrollment; (2) four courses (3 credits each) from area studies offerings, one each from the social science group, historical/geographical group, sociocultural group, and literature group; (3) two courses (3 credits each) in the concentration area of international business management. These courses should be selected in consultation with the REEI graduate advisor. These courses would include, but are not limited to, the following: D503, D504, D527, D545, D546, E597, E598, E698, and X574. Students will be encouraged to take an additional three credits hours from this list as their M.B.A. elective; (4) R601 Interdisciplinary Colloquium in Russian and East European Studies (3 credits).

**Business Course Requirements** Forty-and-one-half (40.5) credit hours of graduate course work to be distributed as follows: (1) Foundations Core, (2) Functional Core, (3) Policy Core. Full information on the M.B.A. curriculum is contained in the Kelley School of Business Bulletin.

**M.A./M.B.A. Essay and Interdisciplinary Oral Examination** Same as for the Master of Arts degree except M.A. essay committee should consist of REEI and Kelley School of Business professors.

**Language Requirements** Successful completion of REEI Oral Proficiency Examination in one area language (same as for the Master of Arts degree-please see description above).

## Dual Master of Arts in Russian and East European Studies and Master of Information Science (M.A./M.I.S.)

The Russian and East European Institute and the School of Library and Information Science jointly offer a three-year program that qualifies students for a dual master's degree. Study for the dual degree (M.A./M.I.S.) can be combined for a total of 60 credit hours rather than the 72 credit hours required for the two degrees taken separately.

**Admissions Requirements** Same as for the Master of Arts degree except that application must also be made to the School of Library and Information Science for study toward the Master of Information Science degree. Students must be accepted by both units in order to be admitted to the program.

**REEI Course Requirements** Twenty-four credit hours of graduate course work to be distributed as follows: (1) R600 Proseminar in Russian and East European Area Studies (3 credits) to be taken the first fall of enrollment; (2) four courses (3 credits each) from area studies offerings, one each from the social science group, historical/geographical group, sociocultural group, and literature group; (3) R620 Topics in Information, Literature, and Bibliography; Slavic Library Materials or R610 Seminar in International Librarianship; International Information Issues. Either R620 or R610 should include a web-based bibliography project; (4) L596 Practicum in Library and Information Science, research must be conducted in an area pertinent to REEI; and (5) R601 Interdisciplinary Colloquium in Russian and East European Studies (3 credits).

**Library and Information Science Course Requirements** Thirty-six credit hours of graduate work to be distributed as follows: (1) three courses (3 credits each) from the Common Core courses (L503, L505, L507, and L509); (2) four courses (3 credits each) from the M.I.S. Core Courses (L542, L543, L544, L545, L546 and L547); (3) five courses (3 credits each) to be chosen in consultation with a Library Information advisor (not including L610 or L620 (which are taken as R610 or R620 through REEI) and L596 which are considered part of the REEI degree). Full information on the M.I.S. curriculum is contained in the School of Library and Information Science Bulletin.

**M.A./M.I.S. Essay and Interdisciplinary Oral Examination** Same as for the Master of Arts degree, except M.A. essay committee should consist of REEI and School of Library and Information Science professors.

**Language Requirement** Successful completion of the REEI Oral Proficiency

Examination in one area language (same as for the Master of Arts degree—please see description above).

### **Dual Master of Arts in Russian and East European Studies and Master of Library Science Degree (M.A./M.L.S.)**

The Russian and East European Institute and the School of Library and Information Science jointly offer a three-year program that qualifies students for a dual master's degree. Study for the dual degree (M.A./M.L.S.) can be combined for a total of 54 credit hours rather than the 66 credit hours required for the two degrees taken separately.

**Admissions Requirements** Same as for the Master of Arts degree, except that application must also be made to the School of Library and Information Science for study toward the Master of Library Science degree. Students must be accepted by both units in order to be admitted to the program.

**REEL Course Requirements** Twenty-four credit hours of graduate course work to be distributed as follows: (1) R600 Proseminar in Russian and East European Area Studies (3 credits) to be taken the first fall semester of enrollment; (2) four courses (3 credits each) from area studies offerings, one each from the social science group, historical/geographical group, sociocultural group, and literature group; (3) L596; (4) R620 Topics in Information, Literature, and Bibliography; Slavic Library Materials; and (5) R601 Interdisciplinary Colloquium in Russian and East European Studies (3 credits).

### **Library and Information Science Course**

**Requirements** Thirty credit hours of graduate work to be distributed as follows: (1) three courses (3 credits each) from the common core courses (L503, L505, L507, and L509); (2) four courses (3 credits each) from the M.L.S. core (L520, L524, L526, and L528); and (3) three courses (3 credits each) to be chosen in consultation with a library science advisor (not including L620 which is considered part of the REEL degree). Full information on the M.L.S. curriculum is contained in the School of Library and Information Science Bulletin.

**M.A./M.L.S. Essay and Interdisciplinary Oral Examination** The Interdisciplinary Colloquium in Russian and East European Studies (R601) paper often becomes the basis of the M.A. essay. The essay must be interdisciplinary in focus and use considerable research in the language of concentration. Three REEL faculty members must evaluate the essay, approve its content, and administer an oral examination that explores the

interdisciplinary implications of the essay within the context of the student's graduate course work. The essay should not exceed 13,000 words in length (not counting footnotes/endnotes or tabular material).

**Language Requirement** Successful completion of the Russian and East European Oral Proficiency Examination requires a knowledge of Russian at intermediate-high level or knowledge of another area language at the second-year level. Language courses do not count toward the REEL degree requirements, but may be necessary to ensure proficiency.

The REEL Oral Proficiency Examination in Russian takes approximately 45 minutes and requires that the student demonstrate an intermediate-high level of proficiency by: (1) participating in a tape-recorded oral interview with a certified oral proficiency tester (10-25 minutes); and (2) orally translating a passage from an article (150 words) into English. For the translation section of the exam, the student will be given 15 minutes to prepare the passage and may use a dictionary.

The REEL Oral Proficiency Examination in other area languages takes approximately 30 minutes and requires that the student demonstrate second-year (intermediate) proficiency by (1) carrying on a conversation on everyday topics in the language; (2) presenting a brief talk (five minutes) on a subject in the student's field and answering questions on the subject matter presented; and (3) orally translating a passage from an article (75 words) into English. For the translation section of the exam, the student will be given 15 minutes to prepare the passage and may use a dictionary.

### **Dual Master of Arts in Russian and East European Studies and Master of Public Affairs (M.A./M.P.A.)**

The Russian and East European Institute and the School of Public and Environmental Affairs jointly offer a three-year program that qualifies students for a dual master's degree. Study for the dual degree (M.A./M.P.A.) can be combined for a total of 60 credit hours rather than the 78 credit hours required for the two degrees taken separately. The first semester of course work toward the dual degree should be completed in the School of Public and Environmental Affairs in order to complete prerequisite courses that are only offered in the fall. REEL required courses R600 and R601 should be completed in year two of dual degree study.

**Admissions Requirements** Same as for the Master of Arts degree, except that application must also be made to the School of Public and Environmental Affairs for study toward the Master of Public Affairs degree. Students must be accepted by both units in order to be admitted to the program.

**REEL Course Requirements** Twenty-four credit hours of graduate course work to be distributed as follows: (1) R600 Proseminar in Russian and East European Area Studies (3 credits); (2) four courses (3 credits each) from area studies offerings, one each from the social science group, historical/geographical group, sociocultural group, and literature group; (3) two courses (3 credits each) in the concentration area of public and environmental affairs. These courses should be selected in consultation with the REEL graduate advisor. These courses may not count toward the credit hours required for the Master of Public Affairs; and (4) R601 Interdisciplinary Colloquium in Russian and East European Studies (3 credits).

### **Public and Environmental Affairs Course**

**Requirements** Thirty-six credit hours of graduate work to be distributed as follows: (1) three courses (1 credit each) V501, V503, and V505; (2) six courses (3 credits each) V502, V506, V517, V540, V560, V600; (3) V589 Democratization and Transition in Eastern Europe and the Newly Independent States (3 credits) or equivalent as approved by the SPEA advisor; (4) four specialization courses (3 credits each) to be selected in consultation with a SPEA advisor. Students will specify a number of advanced courses adapted to the student's educational and career objectives and complementing the Russian and East European studies curriculum.

### **M.A./M.P.A. Essay and Interdisciplinary Oral**

**Examination** Same as for the Master of Arts degree, except M.A. essay committee should consist of REEL and School of Public Affairs professors.

### **Language Requirements**

Successful completion of REEL Oral Proficiency Examination in one area language (same as for the Master of Arts degree—please see description above).

### **Graduate Certificate Program**

**Admissions Requirements** Bachelor's degree with evidence of superior ability. Students admitted to the institute must be admitted first by a department or professional school in which they will work simultaneously for an advanced degree (M.A. or Ph.D.); the certificate is awarded only upon completion of this degree, except in the case of students who have already earned an advanced degree at Indiana

University and who wish to add area specialization to competence in their discipline.

**Course Requirements** (1) Six to eight courses (18 to 24 credit hours) with at least one course from three of the four following groups (social science group, historical/geographical group, sociocultural group, and literature group). No more than three courses (9 credit hours)

applied toward the certificate may be taken within the student's home department. (2) One colloquium or seminar (600-level or higher) in a department outside the student's own. The courses must be planned in consultation with the graduate advisor or director of REEL.

### **Language Requirement**

Successful completion of REEL Oral Proficiency Examination in one area language (same as for the Master of Arts degree—please see description above).

### **Thesis/Dissertation**

Students must present to the institute a bound copy of the dissertation/thesis for their home department on a Russian or East European area topic, or, in certain cases, a copy of a paper written for the colloquium/seminar.

### **Ph.D. Minor Program**

**Admissions Requirement** Bachelor's degree with evidence of superior ability. Students admitted to the institute must be admitted first by a department in which they will work simultaneously for a Ph.D.; the minor is awarded only upon completion of this degree, except in the case of students who have already earned an advanced degree at Indiana University and who wish to add area specialization to competence in their discipline.

**Course Requirements** Three to five courses (3 credits each) from area studies courses, with at least one course from three of the four following groups: social science group, historical/geographical group, sociocultural group, and literature group. The courses must be planned in consultation with the graduate advisor or director of REEL.

### **Courses**

#### **Institute Colloquia**

**R500 Russian and East European Issues (1 cr.)** Minicourse dealing with changing subjects and material. May be repeated twice for credit when topic varies.

**R575 Graduate Readings in Russian and East European Studies (1-3 cr.)** Consent of instructor and the director of the Russian and East European Institute required.

**R600 Proseminar in Russian and East European Area Studies (3 cr.)** Introduction to the disciplines and methodologies of Russian and East European area studies.

**R601 Interdisciplinary Colloquium in Russian and East European Studies** (1.5-3 cr.)  
Capstone course for the Russian and East European Institute master's degree, emphasizing readings in current problems and completion of a major research paper.

**R610 Seminar in International Librarianship: International Information Issues** (3 cr.)  
Comparison of information policies, information standards, and library systems as they affect commercial, scholarly, scientific, and political information contexts.

**R620 Topics in Information, Literature, and Bibliography: Slavic Library Materials** (3 cr.)  
P: knowledge of at least one Slavic language or consent of instructor. Selection and acquisition of Slavic materials; special problems in organization and handling; Slavic bibliographies and other reference materials; online bibliographic databases.

### **Courses Satisfying Distribution**

**Requirements for the REEI M.A., M.A./M.B.A., M.A./M.I.S., M.A./M.L.S., M.A./M.P.A., Graduate Certificate, and Ph.D. Minor**

In order to receive graduate credit for 300- and 400-level courses, the course must be taught by a professor (not an AD) and may require additional assignments. Courses listed in more than one section have varying topics. Consult the graduate advisor to determine in which group a particular topic will be counted. The following is a list of existing courses that have been offered in the last three years and are expected to be offered again.

### **Group I (Social Science)**

#### **Business**

D503 Essentials of International Business (1.5 cr.)

D504 Operations of International Business (1.5 cr.)

D545 East Europe/Russia/China Transition Economies (1.5 cr.)

D546 Investment Worthiness of Economies in Transition (1.5 cr.)

D594 Comparative Strategic Global Industries (1.5 cr.)

D595 Managing Transnational Corporations (1.5 cr.)

M594 Global Marketing Management (3 cr.)

X574 Special Topics: Business Briefing (3 cr.)

X699 International Business and Culture (3 cr.)

#### **Central Eurasian Studies**

U459 Seminar in Turkish Studies: Social Science Topics (3 cr.)

U519 Soviet and Post-Soviet Nationality Policies and Problems (3 cr.)

U520 Selected Topics in Central Eurasian Studies: Social Science Topics (3 cr.)

U533 Finland in the twentieth Century (3 cr.)

U574 The Ecology of Central and Northern Asia (3 cr.)

U596 Post-Soviet Transition in Central Asia (3 cr.)

U597 Politics and Society in Central Asia (3 cr.)

U720 Seminar in Central Eurasian Studies: Social Science Topics (3 cr.)

#### **Economics**

E501 Seminar in Economics: Soviet-Type Economies in Transition (3 cr.)

E597 Structure and Functioning of Socialist Economies in Transition (3 cr.)

E698 Comparative Economics and Economics of Transition (3 cr.)

#### **Education**

H551 Comparative Education I (3 cr.)

#### **Graduate**

I701-I702 Interdisciplinary Workshop on Social Science Research in Less Developed Countries (3-3 cr.)

#### **Political Science**

Y340 East European Politics (3 cr.)

Y368 Russian and Soviet Foreign Policy (3 cr.)

Y385 Russian Political Ideas (3 cr.)

Y657 Comparative Politics (REE area topics) (3 cr.)

Y669 International Relations (REE area topics) (3 cr.)

Public and Environmental Affairs

V550 Topics in Public Affairs (REE area topics) (3 cr.)

V573 Comparative Public Management (3 cr.)

V575 Comparative Public Management and Administration (3 cr.)

V589 Topics in Public Policy: Democratization and Transformation in Eastern Europe and the Newly Independent States (3 cr.)

Slavic Languages and Literatures

R570 Political Russian (3 cr.)

R572 Business Russian (3 cr.)

### **Group II (Historical/Geographical)**

Central Eurasian Studies

U368 The Mongol Conquest (3 cr.)

U423 Hungary between 1890 and 1945 (3 cr.)

U427 Politics, Society, and Culture in Present-Day Hungary (3 cr.)

U436 Finnish Civilization to 1800 (3 cr.)

U469 The Mongols of the Twentieth Century (3 cr.)

U493 Central Asia in the Sixteenth through Nineteenth Centuries (3 cr.)

U494 Central Asia under Russian Rule (3 cr.)

U496 Ethnic History of Central Asia (3 cr.)

U518 Empire and Ethnicity in Modern Russian History (3 cr.)

U520 Selected Topics in Central Eurasian Studies: Historical Topics (3 cr.)

U544 The Baltic States since 1918 (3 cr.)

U590 Shamanism in Central Eurasia (3 cr.)

U698 Islamic Hagiography of Central Asia (3 cr.)

U720 Seminar in Central Eurasian Studies: Historical Topics (3 cr.)

#### **Geography**

G427 Geography of Former Soviet Lands (3 cr.)

#### **History**

C393 Ottoman History (3 cr.)

T500 Topics in History (REE area topics) (3 cr.)

D506 Muscovy and Imperial Russia, 1500-1801 (3 cr.)

D510 Russian Revolutions and the Soviet Regime (3 cr.)

D521 Hungarian History and Civilization to 1711 (3 cr.)

D522 Hungarian History and Civilization 1711-1918 (3 cr.)

D525 Path to Emancipation: Nationalism in the Balkans 1804-1923 (3 cr.)

D527 The People vs. The Emperor: Nation Making and Imperial Decline in East Central Europe 1780-1918 (3 cr.)

D528 The Search for European Integration: Eastern Europe in the Twentieth Century (3 cr.)

H523 The Holocaust (3 cr.)

H640 Colloquium in Russian History (4 cr.)

H645 Colloquium in East European History (4 cr.)

H720 Seminar: Modern Western European History (REE area topics) (4 cr.)

H740 Seminar in Russian History (4 cr.)

H745 Seminar in East European History (4 cr.)

### **Group III (Sociocultural)**

#### **Anthropology**

E332 Jewish Women: Anthropological Perspectives (3 cr.)

E334 Jews in Moslem Society (3 cr.)

E371 Modern Jewish Culture and Society (3 cr.)

E440 Political Anthropology (REE area topics) (3 cr.)

E600 Seminar in Cultural and Social Anthropology (REE area topics) (3 cr.)

E687 Ethnography of Europe (3 cr.)

#### **Central Eurasian Studies**

U345 Finno-Ugric/Siberian Myth and Religion (3 cr.)

U370 Uralic Peoples (3 cr.)

U394 Islam in the Soviet Union and Successor States (3 cr.)

U459 Seminar in Turkish Studies: Sociocultural Topics (3 cr.)

U469 The Mongols of the Twentieth Century (3 cr.)

U498 Studies in Inner Asian Religious Traditions (3 cr.)

U520 Selected Topics in Central Eurasian Studies: Sociocultural Topics (3 cr.)

U543 Estonian Culture and Civilization (3 cr.)

U590 Shamanism in Central Eurasia (3 cr.)

U596 Post-Soviet Transition Central Asia (3 cr.)

U597 Politics and Society in Central Asia (3 cr.)

U598 Peoples and Cultures of Central Asia (3 cr.)

U720 Seminar in Central Eurasian Studies: Sociocultural Topics (3 cr.)

U797 Seminar on Comparative Study of Muslim Societies of Central Asia and Middle East (3 cr.)

#### **Comparative Literature**

C641 Literature in its Intellectual and Cultural Contexts (REE area topics) (4 cr.)

#### **Criminal Justice**

P680 Seminar: Issues in Criminal Justice: (REE area topics) (3 cr.)

#### **Fine Arts**

A425 Byzantine Art (4 cr.)

A442 Twentieth Century Art 1900-1924 (4 cr.)

A480 Russian Art (3 cr.)

A500 Historiography of Western Art (3 cr.)

A626 Problems in Byzantine Art (3 cr.)

#### **Folklore**

F755 Folklore, Culture, and Society (REE area topics) (3 cr.)

#### **Journalism**

J414 International Newsgathering Systems (3 cr.)

J514 International Communication (3 cr.)

J560 Topics Colloquium: Reporting Foreign Affairs (3 cr.)

- J624 Russian and East European Press Systems** (3 cr.)
- Library Science**
- L596 Internship in Library and Information Science** (2-6 cr.)
- Music**
- M502 Composers (REE area topics)** (3 cr.)
- M510 Topics in Music Literature (REE area topics)** (3 cr.)
- M537 Topics in Russian Music** (3 cr.)
- M601 Topics in Music Research (REE area topics)** (3 cr.)
- M695 Seminar in Romantic Music (REE area topics)** (3 cr.)
- Russian and East European Institute**
- R610 Seminar in International Librarianship: International Information Issues** (3 cr.)
- R620 Topics in Information, Literature, and Bibliography: Slavic Library Materials** (3 cr.)
- Slavic Languages and Literatures**
- R407 Readings in Russian Culture, History, and Society I** (3 cr.)
- R408 Readings in Russian Culture, History, and Society II** (3 cr.)
- R522 Russian and Soviet Film** (3 cr.)
- R553 Central European Cinema** (3 cr.)
- R570 Political Russian** (3 cr.)
- R572 Business Russian** (3 cr.)
- Group IV (Literature)**
- Central Eurasian Studies**
- U424 Hungarian Literature from its Beginnings to 1900** (3 cr.)
- U426 Modern Hungarian Literature** (3 cr.)
- U520 Selected Topics in Central Eurasian Studies: Literature Topics** (3 cr.)
- U534 Classical Finnish Literature** (3 cr.)
- U535 Modern Finnish Literature** (3 cr.)
- U720 Seminar in Central Eurasian Studies: Literature Topics** (3 cr.)
- Comparative Literature**
- C535 The Later-Nineteenth and Early-Twentieth Centuries (REE area topics)** (4 cr.)
- C641 Literature in its Intellectual and Cultural Contexts (REE area topics)** (4 cr.)
- Germanic Studies**
- Y505 Modernity and Tradition in Yiddish Literature & Culture** (3 cr.)
- Slavic Languages and Literatures**
- C563 Literatures and Cultures of the Czechs and Slovaks I** (3 cr.)
- C564 Literatures and Cultures of the Czechs and Slovaks II** (3 cr.)
- C565 Seminar in Czech Literature and Culture** (3 cr.)
- L599 Prague School Linguistics and Poetics** (3 cr.)
- M565 Individual Readings in Romanian Language and Literature** (cr. arr.)
- P563 Survey of Polish Literature and Culture I** (3 cr.)
- P564 Survey of Polish Literature and Culture II** (3 cr.)
- R405 Readings in Russian Literature I** (3 cr.)
- R406 Readings in Russian Literature II** (3 cr.)
- R407 Readings in Russian Culture, History, and Society I** (3 cr.)
- R408 Readings in Russian Culture, History, and Society II** (3 cr.)
- R500 Proseminar in Russian Literature** (3 cr.)
- R503 Old Russian Literature** (3 cr.)
- R504 Eighteenth Century Russian Literature** (3 cr.)
- R505 Nineteenth Century Russian Literature I** (3 cr.)
- R506 Nineteenth Century Russian Literature II** (3 cr.)
- R507 Twentieth Century Russian Literature I** (3 cr.)
- R508 Twentieth Century Russian Literature II** (3 cr.)
- R520 Twentieth Century Russian Author** (3 cr.)
- R530 Pushkin** (3 cr.)
- R531 Gogol** (3 cr.)
- R532 Dostoevsky** (3 cr.)
- R533 Tolstoy** (3 cr.)
- R534 Tolstoy and Dostoevsky** (3 cr.)
- R535 Chekhov** (3 cr.)
- R545 Jewish Characters in Russian Literature** (3 cr.)
- R550 Russian Drama** (3 cr.)
- R551 Russian Poetry** (3 cr.)
- R563 Pushkin to Dostoevsky** (3 cr.)
- R564 Tolstoy to Solzhenitsyn** (3 cr.)
- R601 Seminar in Russian Literature (1-6 cr.)**
- S563 Literature and Culture of the Southern Slavs I** (3 cr.)
- S564 Literature and Culture of the Southern Slavs II** (3 cr.)
- Scientific Computing**
- College of Arts and Sciences  
Bloomington**
- Director** Associate Professor Randall Bramley
- Interdepartmental Graduate Committee on Scientific Computing**
- Distinguished Professors** Steven Girvin (Physics), Ernest Davidson (Chemistry), Allan MacDonald (Physics), Peter Ortoleva (Chemistry)
- Professors** Haldan Cohn (Astronomy), Richard Durisen (Astronomy), Dennis Gannon (Computer Science), Robert Glassey (Mathematics), Steven Gottlieb (Physics), Andrew Hanson (Computer Science), Charles Horowitz (Physics), Phyllis Luggner (Astronomy), Gary Pavlis (Geological Sciences), Brian Serot (Physics), James Swihart (Emeritus, Physics), Roger Temam (Mathematics)
- Associate Professors** Randall Bramley (Computer Science), Michael Jolly (Mathematics), Glenn Martyna\* (Chemistry), Gregory Olyphant (Geological Sciences)
- Assistant Professor** Michael Pierce (Astronomy)
- Ph.D. Minor in Scientific Computing**
- Scientific Computing is an interdisciplinary, interdepartmental graduate minor recognizing important changes that have introduced a powerful and entirely new mode of scientific research. The increasing availability of high performance computers has led to a method of scientific inquiry based on mathematical models solved by means of numerical computations, analyzed and viewed by means of advanced computer graphics. Carrying out research by these means is necessarily multidisciplinary, calling on advanced skills in areas that span many classical divisions of academia. The Ph.D. minor in scientific computing provides the interdepartmental education necessary to equip students for research within this new paradigm. Scientific computing courses are generally organized into four categories: numerical analysis, behavior of systems, scientific visualization, and high performance computing. Students are encouraged to develop expertise in more than one of those areas.
- Course Requirements** Twelve hours of which credit in approved courses, six hours of which must be outside the student's major department. The course Introduction to Scientific Computing I (Computer Science P573) has been created as an introductory course for students in the program. Students entering with a background in computational science or engineering, in consultation with their advisor on the Scientific Computing Committee, may omit this course from their curriculum. Students develop their course of
- study with two faculty, one from the student's home department and the other a member of the Graduate Committee on Scientific Computing from outside the student's home department. The proposed course of study will be submitted for approval by the Graduate Committee on Scientific Computing. If approved, a letter detailing the course of study will be signed by the Committee Chair with copies given to the student and the student's home department. Significant changes to the course of study need to undergo the same process of development and approval. Certification of completion of the minor requirements will be by the Committee Chair or an appointed representative.
- Courses**
- Courses which can be used to satisfy the Scientific Computing Minor requirement include but are not limited to the following list: A550 (Astronomy), A570 (Astronomy), P573 (CSCI), B673 (CSCI), B582 (CSCI), C668 (Chemistry), P410 (Physics), P609 (Physics), P700 (Physics), M571 (Math), M572 (Math), G612 (Geological Sciences), G514 (Geological Sciences), and G614 (Geological Sciences).
- Semiotic Studies**
- College of Arts and Sciences  
Bloomington**
- Director** Distinguished Professor Richard Bauman
- Ph.D. Minor in Semiotic Studies**
- Semiotic studies offers a doctoral minor requiring 15 credit hours of course work chosen from among related interdisciplinary areas. Two tracks are available: general semiotics and the social semiotics of language.
- Course Requirements** General semiotics: five courses, to include three in semiotic studies proper, one in philosophy (P520 or an equivalent course approved by the academic advisor), and one from a related area, such as anthropology, fine arts, history, linguistics, music, philosophy, psychology, speech and hearing, or theatre. Selection of these courses will be made in consultation with the academic advisor.
- Social semiotics of language: five courses, to include two in semiotics proper and three in the social semiotics of language to be selected from related areas such as anthropology, communication and culture, folklore, linguistics, or sociology. Selection of these courses will be made in consultation with the academic advisor.



Students must also seek approval for their semiotic studies minor from their respective major departments. Committee approval for the minor will be given upon satisfactory completion of all course work.

**Academic Advising** Distinguished Professor Richard Bauman, Smith Research 140, (812) 855-6193

**Grades** A minimum of a B (3.0) is required in each course.

**Examination** None.

### Courses

#### **S601 Introduction to Semiotic Studies (3 cr.)**

An introduction to verbal and nonverbal communication in humans and to the signaling behavior of the speechless creatures.

Among topics to be discussed are historical developments in medicine, philosophy, and linguistics; semiotic processes in everyday life and their development in the individual, dissolution in old age, and modification under abnormal conditions. Connections with social anthropology, sociology, and the various auditory and visual arts will be emphasized.

#### **S603 The Semiotics of C. S. Peirce (3 cr.)**

Semiotics of the philosopher C. S. Peirce.

#### **S604 Classics of Modern Semiotics (3 cr.)**

Introduction to the thinking of the dozen most important modern contributors to semiotics, ranging from Peirce and Saussure to several contemporary figures.

**S650 Topics in Semiotics (3 cr.)** P: S601 or consent of instructor. Exploration of a small subset of the topics enumerated in S601; subset will vary from year to year.

#### **S660 Readings and Research in Semiotics (1-3 cr.)**

\* Guided reading leading to research for M.S. thesis or Ph.D. dissertation.

## Slavic Languages and Literatures

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Henry Cooper Jr.

**Departmental e-mail:** iuslavic@indiana.edu

**Departmental URL:** <http://www.indiana.edu/~iuslavic>

### Graduate Faculty

**Professors** Henry Cooper Jr., William Edgerton (Emeritus), Ronald Feldstein, Steven Franks, Felix Oinas (Emeritus), Nina Perlina, Cornelis Van Schooneveld (Emeritus), Bronislava Volková

**Associate Professors** Andrew Durkin, George Fowler,\* Dodona Kiziria,\* Vadim Liapunov, Bozena Shallcross

**Associate Professor (Part-Time)/Assistant**

**Scholar** Louise Hammer\*

**Visiting Scholar** Bogdan Rakic\*

**Degrees Offered** Master of Arts and Doctor of Philosophy

Attention is called to the program of the Russian and East European Institute, which offers students an opportunity to combine work for an advanced degree in the Department of Slavic Languages and Literatures with interdisciplinary area study of the former Soviet Union or Eastern Europe.

Attention is also called to the Summer

Workshop in Slavic and East European Languages, which offers a special certificate program that provides intensive language training in Russian at advanced levels not available during the regular academic year.

The workshop also offers first-year and occasionally second-year courses in other Slavic, East European, and Eurasian languages.

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**General Provision** Students wishing the recommendation of the department for teaching positions must present evidence of their ability to teach Russian through actual teaching experience under departmental supervision.

**Admission Requirements** Graduate Record Examination General Test. Entering students are expected to have (1) active and passive knowledge of the Russian language adequate for graduate study, as determined by a proficiency examination based on the department's fourth-year course, (2) a general acquaintance with the major works of nineteenth- and twentieth-century Russian literature equivalent to at least the materials covered in a two-semester undergraduate survey course, and (3) a reading knowledge of German or French. Students seeking to study a departmental language other than Russian must demonstrate a clear interest in that language (e.g., prior study, overseas experience in the relevant country, etc.) for admission.

Students enrolling with deficiencies in any of the areas listed above are encouraged to remove them during the summer preceding the start of their graduate work. Students with a Russian language deficiency are urged to apply to the Summer Workshop. Courses taken to satisfy deficiency requirements in Russian, French, or German will not carry graduate credit and will lie outside of the 30 credit hours required for the M.A. degree.

Students with a deficiency in Russian literature may take the departmental undergraduate survey courses (R263- R264) without credit.

**General Course Requirements** A minimum of 30 credit hours of courses carrying graduate credit, at least 20 of which must be taken in the Department of Slavic Languages and Literatures.

**Track Requirements** In addition to the general course requirements, students pursuing the M.A. degree shall complete one of the four programs described below. Tracks 1 and 2 are structured primarily for preparing students who wish to continue toward a Ph.D. degree with a specialization in Russian literature or Slavic linguistics; Track 3 is designed mainly for students pursuing a departmental language other than Russian; Track 4 is for those with other career goals in mind.

**Track 1-Russian Literature M.A. Requirements**

1. R500 Proseminar in Russian Literature
2. L571 Old Church Slavonic or L576 History of the Russian Literary Language or L501 Structure of Russian I
3. R501-R502 Advanced Russian Syntax and Stylistics I and II or R570 Political Russian and R572 Business Russian
4. R403 Russian Phonetics
5. R503 Old Russian Literature or R504 Eighteenth-Century Russian Literature
6. R505-R506 Nineteenth-Century Russian Literature I and II
7. R507-R508 Twentieth-Century Russian Literature I and II

Total: 30 credits

**Track 2-Slavic Linguistics M.A. Requirements**

1. L501 Structure of Russian I: Phonology and Morphology
2. L502 Structure of Russian II: Syntax and Semantics
3. L571 Old Church Slavonic
4. R403 Russian Phonetics
5. Two semesters of a West or South Slavic language
6. R501-R502 Advanced Russian Syntax and Stylistics I and II or R570 Political Russian and R572 Business Russian

Total: 30 credits

**Track 3-Language and Area Studies**

Two survey-type Slavic literature courses at the graduate level; a departmental language other than Russian (6-12 credit hours), and 3 credit hours in the department as approved by the graduate advisor; and, in addition, 9 credit hours of graduate courses inside or outside the department selected with the approval of the graduate advisor. (Students taking this option are encouraged to fulfill the additional requirements for a certificate in the Russian and East European Institute. See below.)

**Track 4-Dual Concentration**

Two survey-type Slavic literature courses at the graduate level; plus two additional graduate courses in the department; and a program of at least 9 graduate credits in one other department approved by the graduate advisor, such as business, comparative literature, economics, fine arts, geography, history, linguistics, literature, music, political science, or a foreign language.

Students may be exempted from Slavic language courses by passing proficiency examinations.

**Examination** No examination is required for a terminal M.A. degree, but a doctoral admission examination, based on the M.A. program for Tracks 1, 2, or 3, is required for admission to Ph.D. work and must normally be passed before the student registers for the fifth semester of graduate work. (A student working simultaneously for the M.A. degree and an area certificate in the Russian and East European Institute must pass the doctoral admission examination before registering for the sixth semester of graduate work.)

**Doctor of Philosophy Degree**

Two plans of study are offered.

**Plan A: Russian Literature** (A comparable program will be worked out for students choosing another Slavic literature as their major field.)

**Admissions Requirements** A doctoral admission examination based on the Indiana University M.A. degree in Slavic languages and literatures under Track I (Russian literature). Students holding an M.A. in Slavic languages and literatures from another institution will be required, at the discretion of the department, to pass this examination no

7. R505 Nineteenth-Century Russian Literature I or R506 Nineteenth-Century Russian Literature II

8. One SLAV linguistics course

Total: 30 credits

### Track 3-Language and Area Studies

Two survey-type Slavic literature courses at the graduate level; a departmental language other than Russian (6-12 credit hours), and 3 credit hours in the department as approved by the graduate advisor; and, in addition, 9 credit hours of graduate courses inside or outside the department selected with the approval of the graduate advisor. (Students taking this option are encouraged to fulfill the additional requirements for a certificate in the Russian and East European Institute. See below.)

**Track 4-Dual Concentration**

Two survey-type Slavic literature courses at the graduate level; plus two additional graduate courses in the department; and a program of at least 9 graduate credits in one other department approved by the graduate advisor, such as business, comparative literature, economics, fine arts, geography, history, linguistics, literature, music, political science, or a foreign language.

Students may be exempted from Slavic language courses by passing proficiency examinations.

**Examination** No examination is required for a terminal M.A. degree, but a doctoral admission examination, based on the M.A. program for Tracks 1, 2, or 3, is required for admission to Ph.D. work and must normally be passed before the student registers for the fifth semester of graduate work. (A student working simultaneously for the M.A. degree and an area certificate in the Russian and East European Institute must pass the doctoral admission examination before registering for the sixth semester of graduate work.)

**Doctor of Philosophy Degree**

Two plans of study are offered.

**Plan A: Russian Literature** (A comparable program will be worked out for students choosing another Slavic literature as their major field.)

**Admissions Requirements** A doctoral admission examination based on the Indiana University M.A. degree in Slavic languages and literatures under Track I (Russian literature). Students holding an M.A. in Slavic languages and literatures from another institution will be required, at the discretion of the department, to pass this examination no

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later than their second semester in attendance at Indiana University.

#### General Requirements

- 30 credits from M.A.
- 12 credits from minor (if second Slavic language, must include second year)
- R503 Old Russian Literature or R504 Eighteenth-Century Russian Literature
- L571 Old Church Slavonic or L576 History of the Russian Literary Language or L501 Structure of Russian I (N.B.: if L571 or L576 used for M.A., this course must be L501)
- Two semesters of a second Slavic language
- At least five literature courses in the department, including at least one seminar

Total: 90 (at least 69 credits of course work and up to 21 credits of dissertation)

**Language Requirement** Active knowledge of written and spoken Russian beyond the minimum required for the M.A.; reading knowledge of German, French, and one other Slavic language.

#### Qualifying Examination

Three written examinations. One will cover all categories of literature in one of the following three periods: (1) from the beginning to 1800, (2) from 1800 to 1890, (3) from 1890 to the present. The second examination will cover the whole history of Russian literature, but will be confined to all forms of narrative prose. The third examination will cover one of the following categories in its entirety: (1) poetry, exclusive of drama; (2) dramatic literature; (3) criticism.

All three of these written examinations are to be taken within two successive semesters. When they have been passed, an oral examination will be given shortly thereafter. The oral examination will cover not only all of Russian literature, but also the following: Russian folklore, Russian history and culture, and major literary developments in the rest of Europe, including those in the second Slavic literature. The examination will be designed to provide an opportunity for students to demonstrate the range and depth of their scholarly interests and ability.

#### Plan B: Slavic Linguistics

**Admission Requirement** A doctoral admission examination based on the Indiana University M.A. degree in Slavic languages and literatures under Track 2 (Slavic linguistics). Students holding an M.A. in Slavic languages and literatures from another institution will be required, at the discretion of the department, to pass this examination not later than their second semester in attendance at Indiana University.

#### General Requirements

- 30 credits from M.A.

#### R570 Political Russian (3 cr.)

**R572 Business Russian (3 cr.)** P: placement above third year or consent of instructor.

Acquisition of vocabulary and construction characteristic of business Russian. Reading of background literature. Study of correspondence, agreements, contracts, invoices, and other commercial documents in current use between American concerns and Russian agencies. Oral practice leading to simulated negotiations based on actual experience of American firms.

#### R592 Methods of Russian Language Instruction (3 cr.)

Methods of teaching Russian. The course will deal with all methods currently in use in foreign language pedagogy with emphasis on proficiency oriented teaching as applied to Russian. Review of Russian textbooks and video materials. Design and preparation of syllabi and development of lesson plans. Required for SLAV AIs.

#### RUSSIAN LITERATURE COURSES

##### Survey Courses

**R503 Old Russian Literature (3 cr.)** Lectures and readings in the original of Old Russian literary works from the eleventh to the seventeenth centuries.

#### R504 Eighteenth-Century Russian Literature (3 cr.)

Russian intellectual life during the century of Russia's Europeanization; philosophical, religious, aesthetic, and social problems revealed in the writings of leading Russian authors of the century.

#### R505-R506 Nineteenth-Century Russian Literature I-II (3-3 cr.)

Development of Russian prose from Sentimentalism and Romanticism through Realism, with a focus on analysis of primary sources and original texts, to discover narrative and aesthetic principles and practices of major writers of the century.

#### R507-R508 Twentieth-Century Russian Literature I-II (3-3 cr.)

Principal literary movements, major literary works from Symbolism through the Revolution and the Soviet period, culminating in the writing of the *Perestroika* period.

#### R520 Twentieth-Century Russian Author: (name variable) (3 cr.)

Thorough investigation of the oeuvre of one or several twentieth-century Russian authors.

#### R545 Jewish Characters in Russian Literature (3 cr.)

Approaches the "Jewish Question," the identity and self-identity of Jewish characters from the standpoints of literary analyses, cultural ethnography, folklore and religious studies, and social and political history. Literary works of major nineteenth- and twentieth-century Russian writers provide the primary sources for the discussions.

**R563 Pushkin to Dostoevsky (3 cr.)** (For non-SLAV and SLAV linguistics graduate students only.)

**R564 Tolstoy to Solzhenitsyn (3 cr.)** (For non-SLAV and SLAV linguistics graduate students only.)

#### Author Courses

**R530 Pushkin (3 cr.)**

**R531 Gogol (3 cr.)**

**R532 Dostoevsky (3 cr.)**

**R533 Tolstoy (3 cr.)**

**R534 Tolstoy and Dostoevsky (3 cr.)** Introduction to the masterworks of Leo Tolstoy and Feodor Dostoevsky. Discussions focus on four major novels; in addition, students read several important short stories and novellas by each author. Lectures in English; readings may be done in English or Russian. (For non-SLAV and SLAV linguistics graduate students only.)

**R535 Chekhov (3 cr.)**

#### Genre Courses

**R550 Russian Drama (3 cr.)**

**R551 Russian Poetry (3 cr.)** Metrical and thematic developments in Russian poetry against aesthetic and philosophical background. Major works read in the original.

**R552 Russian and Soviet Film (3 cr.)**

**R553 Central European Cinema (3 cr.)** Emphasizes broad cultural approach to the subject of Central European cinema.

Highlights the major developments of cinema in Poland, Hungary, Bulgaria, and the former Republics of Czechoslovakia and Yugoslavia in the post-Stalin era. The course will be divided into four segments, each dealing with a separate theme.

#### Theory Courses

**R500 Proseminar in Russian Literature (3 cr.)** Designed as an introduction to graduate study in Russian literature. Research methods, sources. History of Slavic scholarship. Required of all graduate literature majors, in first or second semester of study.

**R598 Literary Theory in its Russian and East European Context (3 cr.)** Advanced survey of literary theories originating in the Slavic world (Formalism, Bakhtin, Tartu School, etc.) and their interaction with western literary theories.

**L599 Prague School Linguistics and Poetics (3 cr.)** P: interest in theory. An interdisciplinary introduction into linguistics, semantics, and literary theory based on the methodology of the Prague School. Gives students tools with which to approach analysis in any of these areas. Also included are theory of theater, folklore, and visual arts.

## Seminars

**R601 Seminar in Russian Literature (1-6 cr.)** Subject to vary. Intensive study of an author, a period, or a literary movement. Research papers required. May be repeated for credit.

## THE GRADUATE PROGRAM IN SLAVIC LINGUISTICS

### Slavic Linguistics Courses

#### Synchronic Courses

**L501 Structure of Russian I: Phonology and Morphology (3 cr.)** Introduction to graduate study in Slavic linguistics. Survey of the field. Research sources. Basic concepts of diachronic linguistics. Introduction to synchronic linguistic theory: Bloomfield, Chomsky, Jakobson.

**L502 Structure of Russian II: Syntax and Semantics (3 cr.)** P: L501 or consent of instructor. Introduction to the syntactic and semantic structure of contemporary standard Russian.

**L503 Russian Word Formation (3 cr.)** P: L501. Survey of principles of word formation in Russian. Discussion of formal (morphophonemic) rules governing prefixation, suffixation, and compounding; productive vs. non-productive processes; and the semantics of derived words.

**L504 Comparative Slavic Morphosyntax (3 cr.)** Selected topics in the morphosyntax of Slavic languages will be examined from a comparative perspective. Introduces students both to modern generative grammar and to a range of relevant problems posed by Slavic.

**L505 Structure and History of a Slavic Language (3 cr.)** Synchronic and diachronic analysis of a single Slavic language (usually of language not regularly taught in department), including developmental trends and dialects. Will attempt to provide rapid facility for reading texts (especially linguistic), by building on student's knowledge of Russian.

**L599 Prague School Linguistics and Poetics (3 cr.)** P: Interest in theory. An interdisciplinary introduction into linguistics, semiotics, and literary theory based on the methodology of the Prague School. Gives students tools with which to approach analysis in any of these areas. Also included are theory of theater, folklore, and visual arts.

#### Diachronic Courses

**L571 Old Church Slavonic (3 cr.)** History and grammar of Old Church Slavonic; alphabet, sound system, morphology, and elements of syntax. Reading of Old Church Slavonic texts.

**L572 Comparative Slavic (3 cr.)** A comparative survey of the Slavic languages and their historical development.

**L573 History of East Slavic (3 cr.)** Survey of East Slavic phonology from Common Slavic to the present. Dialectal divergence in Old Russian and formation of Great Russian, Ukrainian, and Belorussian as literary languages.

**L574 History of South Slavic (3 cr.)** Since Common Slavic period. Phonemic and morphological divergences within Southern Slavic language group. Formation of Southern Slavic literary languages, with emphasis on history of Serbo-Croatian and Bulgarian.

**L575 History of West Slavic (3 cr.)** Since Common Slavic period. Formation of Western Slavic literary languages, with emphasis on the history of Polish and Czech. Development of Polish and Czech phonemic systems and their dialectal differentiation.

**L576 History of the Russian Literary Language (3 cr.)** P: S571. Formation of Russian literary language in connection with cultural development of Kievan Russia and the Muscovite state; Slavic and non-Slavic influences before and after Peter the Great; standardization of Russian in nineteenth century and innovations after October Revolution.

#### Seminars

**L600 Proseminar in Slavic Linguistics (3 cr.)** Introduction to the profession of Slavic linguistics. Emphasis on linguistic argumentation, research methods, sources, and critical reasoning. Exposure to a range of approaches to Slavic linguistics and practical training in research methodology and scholarly argumentation. Preparation for doctoral program admissions examination.

**L601 Seminar in Synchronic Slavic Linguistics (1-6 cr.)** Detailed investigation of one or more specialized areas of synchronic Slavic linguistics. Topic varies; may be repeated for credit.

**L602 Seminar in Diachronic Slavic Linguistics (1-6 cr.)** Detailed investigation of one or more aspects of Slavic historical linguistics (e.g., historical phonology, morphophonology, morphology, syntax). Examination of general theories and specific issues, complex problems and controversial or innovative solutions. Topic varies; may be repeated for credit.

**L603 Topics in Slavic Linguistics (1-6 cr.)**

THE GRADUATE PROGRAMS IN OTHER SLAVIC AND EAST EUROPEAN LANGUAGES AND LITERATURES

#### Czech and Slovak

**C501-C502 Elementary Czech I-II (3-3 cr.)**

**C503-C504 Intermediate Czech I-II (3-3 cr.)**  
**C505-C506 Advanced Intermediate Czech I-II (3-3 cr.)** Development of oral and written

fluency and comprehension in Czech language based on morphological, lexical, and syntactical analysis of contemporary textual materials.

**C563-C564 Literature and Culture of the Czechs and Slovaks I-II (3-3 cr.)** Survey of Czech and Slovak literatures, emphasizing their relation to the literatures of the other Slavic peoples and of Western Europe.

**C565 Seminar in Czech Literature and Culture (3 cr.)** Intensive study of an author, a period, or a literary or cultural development. Research papers required. May be repeated for credit when topic varies.

**V501-V502 Elementary Slovak I-II (3-3 cr.)**

#### Polish

**P501-P502 Elementary Polish I-II (3-3 cr.)**

**P503-P504 Intermediate Polish I-II (3-3 cr.)**

**P505-P506 Advanced Intermediate Polish I-II (3-3 cr.)**

**P563-P564 Survey of Polish Literature and Culture I-II (3-3 cr.)** I: Polish literature from its origins to the end of the eighteenth century. II: Polish literature of the nineteenth and twentieth centuries.

**P565 Seminar in Polish Literature and Culture: (variable title) (3 cr.)** Intensive study of an author, a period, or a literary or cultural development. Research papers required. May be repeated for credit when topic varies.

#### Romanian

**M501-M502 Elementary Romanian I-II (3-3 cr.)**

**M503-M504 Intermediate Romanian I-II (3-3 cr.)**

**M565 Individual Readings in Romanian Language and Literature (cr. arr.)**

South Slavic

**B501-B502 Elementary Bulgarian I-II (3-3 cr.)**

**B601 Introduction to Bulgarian (3 cr.)** P:

knowledge of another Slavic language or

consent of instructor. Introduction to basic

morphology and syntax of Bulgarian.

**K501-K502 Elementary Slovene I-II (3-3 cr.)**

**K601 Introduction to Slovene (3 cr.)** P:

consent of instructor. Phonology, morphology, and

syntax of the Slovene language. For reading

knowledge.

**S501-S502 Elementary Serbian and Croatian I-II (3-3 cr.)**

**S503-S504 Intermediate Serbian and Croatian I-II (3-3 cr.)**

**S505 Advanced Intermediate Serbian and Croatian I (3 cr.)** P:

S504 or equivalent

proficiency. Reading of literary texts from a

variety of periods and locations in the Bosnian-

Serbian speech area. Sequence of

readings in original parallels syllabus of S563-

S564 in translation. Review of grammar, syntax, and expansion of lexicon as needed.

**S506 Advanced Intermediate Serbian and Croatian II (3 cr.)** P: S504 or equivalent proficiency. Reading of literary texts from a variety of periods and locations in the Bosnian-Serbian speech area. Sequence of readings in original parallels syllabus of S563-S564 in translation. Review of grammar, syntax and expansion of lexicon as needed.

**S563-S564 Literature and Culture of the Southern Slavs I-II (3-3 cr.)** Survey of the cultures of the Slovenes, Croats, Serbs, Bosnians, Macedonians, and Bulgarians from earliest times to the present. Reading and discussion of their major literary works in translation.

**S565 Seminar in South Slavic Literatures (3 cr.)** P: S563-S564 or consent of instructor. Intensive study of an author, a period, or a literary development. Research papers required. May be repeated for credit when topic varies.

#### Other

**G501-G502 Elementary Georgian I-II (3-3 cr.)**

**U601 Introduction to Ukrainian (3 cr.)** P: knowledge of another Slavic language or consent of instructor. Introduction to basic morphology and syntax of Ukrainian.

#### General Slavic Course

**S540 Graduate Readings in Slavic Studies (cr. arr.)\*** Readings may be selected in any of the Slavic languages.

**S560 Special Studies in Slavic Literature (3 cr.)**

**S801 Ph.D. Dissertation (cr. arr.)\***

SUMMER WORKSHOP IN SLAVIC AND EAST EUROPEAN LANGUAGES

#### Russian

**R431 Intensive Russian-Oral (2 cr.)**

**R434 Intensive Russian-Phonetics (1 cr.)**

**R447 Intensive Russian, Level 7 (7 cr.)**

Intensive summer equivalent of R401 and R402.

**R448 Intensive Russian, Level 8 (10 cr.)**

Intensive summer equivalent of R501 and R502.

**R449 Intensive Russian, Level 9 (10 cr.)**

Intensive Russian at the sixth-year level.

**OTHER SLAVIC, EAST EUROPEAN, AND EURASIAN LANGUAGES**

Undergraduate and graduate sections, on the elementary and intermediate levels, of the following languages are offered on a varying basis: Polish, Czech, Slovak, Hungarian, Slovene, Serbian and Croatian, Romanian, Bulgarian, Georgian, Uzbek, Azeri, Kazak, Estonian, Turkmen.

## Social Studies

College of Arts and Sciences  
Bloomington

### Interdepartmental Graduate Committee on Social Studies

C. Frederick Risinger (Education), Chairperson; Professors John Lovell (Political Science), Gerald Marker (Education), M. Jeanne Peterson (History)

**Academic Advisor** C. Frederick Risinger, Education 1052, (812) 856-8582

### Degree Offered

Master of Arts for Teachers  
This program leads to Indiana teacher certification in secondary social studies, including history. Courses are selected from various departmental offerings and from those of the School of Education.

### Special Program Requirements

(See also general University Graduate School requirements.)

### Master of Arts for Teachers Degree

**Admission Requirements** Bachelor's degree, with at least 18 credit hours in the social sciences.

**Course Requirements** A total of 36 credit hours, including 24 credit hours in three of the following departments: anthropology, economics, geography, history, political science, psychology, and sociology. At least 12 credit hours must be in one department, the other 12 credit hours divided as equally as possible between two other departments. Remaining credit hours are in the above departments or in the School of Education. S501-S502 may be substituted for any 6 of the 36 credit hours except the 12 credit hours in the major.

### Courses

**S501-S502 Seminar for Social Studies Teachers I-II (3-3 cr.)** Intensive study of books in the literature of social studies which constitute landmarks of the past or present and important points of view with respect to contemporary problems.

## Social Work

School of Social Work  
Indianapolis

Director Professor Gerald T. Powers

### Graduate Faculty

Professors William Barton, Barry Courmoyer,\* Roberta Greene, Graffton Hull, Jr.

(Northwest), Gerald T. Powers, Paul Sachdev, W. Patrick Sullivan

**Associate Professors** Margaret Adamek, Valerie Chang,\* Gail Folaron,\* Eldon Marshall,\* Paul Newcomb (South Bend), Linda Anderson Smith,\* Irene Queiro-Tajalli\*

**Academic Advisor** Professor Gerald T. Powers, Indiana University School of Social Work, 902 W. New York Street, Indianapolis, IN 46202; (317) 274-6724, gpowers@iupui.edu  
**Degrees Offered** Doctor of Philosophy. The School of Social Work also offers the Master of Social Work degree on the Indianapolis, IUN/Gary and the first year of this program may also be completed on the South Bend campus. For further information on the M.S.W. program, see the Bulletin of the School of Social Work.

### Doctor of Philosophy Degree

**Admission Requirements** All applicants to the Ph.D. program must have a masters degree in social work or a related field of study.

Admission to the Ph.D. program is based on evaluations of (1) the applicant's professional resume, (2) professional experience beyond the M.S.W. degree, (3) undergraduate and graduate transcripts, (4) three letters of reference, (5) an example of the applicant's scholarly writing, (6) a 500-word statement of purpose, (7) Graduate Record Examination General Test scores.

**Application Deadlines** Applications are accepted at any time, but a deadline of January 1 is required in order to be considered for a University Fellowship. All applications must be received by April 1 in order to be considered for admission to the program for the following fall semester. Application materials and further information may be obtained from the program director.

**Course Requirements** A total of 90 credit hours, including dissertation and research internship. Up to 30 graduate credit hours may be counted toward the minimum 90 credit hours required for the Ph.D. degree. All courses credited toward the Ph.D. degree must have a minimum grade of B and must receive written approval of the School of Social Work Ph.D. Program Committee and the dean of the University Graduate School. Specific program requirements include: (1) professional social work component-27 credit hours, (2) specialization component-18 credit hours, (3) research component-6 credit hours, (4) research internship-6 credit hours, (5) dissertation-12 credits. See also the "Requirements for the Degree Doctor of Philosophy" discussed in the first section of this bulletin.

**Advisory Committee** All students in the Ph.D. program, with the approval of the program director, will select an advisory committee of three faculty members, one of whom will represent the student's area of specialization outside the School of Social Work.

**Qualifying Examination** Comprehensive; specific focus and scheduling determined by the student's advisory committee.

**Research Proposal** After nomination to candidacy, the student, with the approval of the program director, will select a research committee of no fewer than three faculty members, including an outside member. This committee must approve the proposed dissertation topic.

**Final Examination** Oral defense of dissertation.

### Pre-Doctoral Exploration Option Program

This program is designed to provide prospective Ph.D. students with an opportunity to explore their interests in research and doctoral education before making formal application to the Ph.D. program. Qualified students are admitted under a "special student" status (M9) and are permitted to enroll in up to three of the school's regular Ph.D. foundation courses (9 credit hours) before having to decide whether they intend to apply to the Ph.D. program. If later accepted to the Ph.D. program, credits earned during the pre-doctoral phase will automatically apply toward the Ph.D. degree. Participation in the Pre-Doctoral Exploration Program does not guarantee acceptance into the Ph.D. program. Applications for the Pre-Doctoral Exploratory Option program must be postmarked by June 16 for fall admission and by October 27 for spring admission. All inquiries regarding the pre-doctoral option should be directed to the academic advisor listed above.

### Ph.D. Minor in Social Work

A minor in social work requires the completion of at least 12 credit hours of graduate course work. Students must complete either S730 or S740 and at least one additional course from among the 700 level courses listed below. Remaining course requirements may be taken from among the school's 500 and 600 level courses with the approval of the Director of the M.S.W. Program and the course instructor. The choice of courses comprising the minor must be made in consultation with the Ph.D. program director and have the approval of the student's identified faculty advisor.

## Courses

- S500 Social Welfare and the Social Work Profession (3 cr.)**  
**S510 Human Behavior and Social Environments: Individuals, Families, and Groups (3 cr.)**  
**S511 Human Behavior and Social Environment: Organizations, Communities, and Societies (3 cr.)**  
**S520 Evaluation Processes for Social Work (3 cr.)**  
**S530 Social Policy and Service Delivery I (3 cr.)**  
**S540 Social Work Practice I: Theory and Skills (5 cr.)**  
**S541 Social Work Practice II: Individuals, Families, Groups (3 cr.)**  
**S542 Social Work Practice II: Organizations, Communities, and Societies (3 cr.)**  
**S621 Social Work Research: Interpersonal (3 cr.)**  
**S622 Social Work Research: Macro Practice (3 cr.)**  
**S631 Social Policy and Services II (3 cr.)**  
**S643 Social Work Practice III: Individuals (3 cr.)**  
**S644 Social Work Practice III: Families (3 cr.)**  
**S645 Social Work Practice III: Groups (3 cr.)**  
**S646 Community Organization and Social Action (3 cr.)**  
**S647 Program Planning and Development (3 cr.)**  
**S710 Proseminar on Client Systems (3 cr.)**  
**S720 Philosophy of Science and Social Work (3 cr.)**  
**S723 Application of Research Methods (3 cr.)**  
**S726 Advanced Social Work Research: Qualitative Methods (3 cr.)**  
**S727 Advanced Social Work Research: Quantitative Methods (3 cr.)**  
**S730 Proseminar on Social Work Policy Analysis (3 cr.)**  
**S740 Interpersonal Social Work Practice: Theory and Research (3 cr.)**  
**S790 Special Topics in Social Work Practice, Theory, and Research (1-3 cr.)**

## Ph.D. Courses

In addition to the required courses listed below, all students must complete a minimum of 12 credit hours outside the School of Social Work related to their area of specialization. An advanced course in measurement and statistics is also required and is typically taken as part of the student's area of specialization. All students must enroll for 6 elective credits, which may be taken within or outside the

School of Social Work with the approval of the student's advisory committee.

#### **Required**

**S710 Proseminar on Client Systems (3 cr.)**  
This seminar focuses on the converging forces that have shaped the development, dissemination, and utilization of the human-behavior knowledge base of social work. It specifically examines the social and behavioral science theory and research that provide the foundation for social work practice across a variety of system levels.

**S720 Philosophy of Science and Social Work (3 cr.)**  
This course examines the nature and sources of social work knowledge and considers a range of epistemological issues involved in the selection, development, evaluation, and use of knowledge for social work.

**S725 Social Work Research Internship (3 cr.)**  
P: S720, S726, S727 or a foundation statistics course, and at least one of the following: S710, S730, or S740. This supervised field internship provides practical experience in conducting research relevant to social work practice. Students participate in a new or ongoing, faculty supervised research project involving the design and implementation of a study, including the collection and analysis of data, and the development of appropriate research reports. Internship may be registered for up to three times.

**S726 Advanced Social Work Research: Qualitative Methods (3 cr.)**  
P: S720 and foundation statistics course. This course provides an opportunity for students to initiate a research project using qualitative research methods. Topics covered will include developing the research question, exploring the literature, writing an interview guide, interviewing, analyzing data, computer analysis, writing reports, subjectivity and bias, ethics, role of theory, trustworthiness, and audits.

**S727 Advanced Social Work Research: Quantitative Methods (3 cr.)**  
P: S720 and foundation statistics course. This advanced quantitative research methods course prepares students with the knowledge and skills necessary to effectively engage in independent research, including: literature review, theory development, hypothesis testing, research design, data analysis, and report writing. It includes related computer applications and use of online data sources.

**S730 Proseminar on Social Work Policy Analysis (3 cr.)**  
This seminar focuses on the development and application of analytical tools necessary to critically examine and evaluate social policy theory and research germane to social work, including the values and ideologies that undergird social problem

construction, social policy creation, and social program design. Specific attention is devoted to the application of these schemata for diverse populations.

**S740 Interpersonal Social Work Practice: Theory and Research (3 cr.)**  
This seminar provides an in-depth orientation to the place of research in social work. It focuses on epistemological, methodological, practical, and ethical issues which affect the way in which research relevant to the profession of social work is conducted and used.

#### **S800 Dissertation Research (1-12 cr.)**

#### **Electives**

**S723 Application of Research Methods (3 cr.)**  
This elective seminar provides students with an opportunity to engage in a guided research project that builds upon the qualitative/quantitative methodologies developed during the S726 Advanced Social Work Research: Qualitative Methods course. Students gain experience in all phases of the scientific process and receive individual and collective critique of their research efforts.

**S790 Special Topics in Social Work Practice, Theory, and Research (1-3 cr.)**  
P: approval by appropriate instructor. This course provides students with an opportunity to engage in focused study of a substantive area of social work practice directly related to the student's identified area of theoretical and research interest. It is completed with the approval and under the guidance of a member of the Ph.D. faculty.

## **Sociological Practices**

### **IPFW Fort Wayne**

**College of Arts and Sciences**

**Chairperson** Professor Peter Iadicola

**School of Arts and Sciences**

**Fort Wayne**

### **Graduate Faculty**

**Professors** Peter Iadicola, Michael Nusbaumer, Anson Shupe, Wen-hui Tsai  
**Associate Professors** Patrick Ashton, Judith Dilorio

**Graduate Advisor** Kathy Trier, 2101 E. Coliseum Blvd., Fort Wayne, IN 46805-1499, (219) 481-6842

**Degrees Offered** Master of Arts in Sociological Practice

### **Special Departmental Requirements**

(See also general University Graduate School requirements.)

**Admission Requirements** Baccalaureate degree including a major in sociology or related discipline with a grade-point average of 3.0 (B); minimum scores of 500 on the GRE math subtest and verbal subtest. Application for admission must include an essay demonstrating that writing skills and career objectives are in line with the program, three letters of recommendation, and an interview with graduate advisor or other faculty member. Students who have not completed an undergraduate degree in sociology may be admitted contingently if they have completed Introductory Sociology, Sociological Theory, Sociological Methods, Statistics, Social Stratification, and Social Psychology with a B or better, or agree to complete these undergraduate classes before they are allowed to enroll in graduate classes.

**Course Requirement** A total of 33 credit hours, including 24 credit hours in the following topic areas (Principles of Sociological Theory and Practice; Organizations and the Individual; Social Stratification; Statistical Techniques in Sociology; Applied Research Methods; Clinical Methods in Sociological Practice) and 9 hour Practicum in Sociological Practice) and 9 credit hours of electives in Applied and Clinical Sociology or other approved graduate courses.

**Grades** Students must complete each course with a grade of B or better.

**Thesis** The thesis requirement is fulfilled by completion of Practicum, which includes a written and oral presentation.

#### **Courses**

**P510 Seminar on Organizations and the Individual (3 cr.)** Focuses on the interplay between social structural factors and individual actions. Examines basic principles of social organizations as well as variations in types of organizational arrangements. Explores impact of organizational structures on individual behavior and attributes, and the implications of various behavioral strategies adopted by individuals functioning within organizations.

**P517 Social Stratification and Social Practice (3 cr.)** This course examines social stratification as both an area of scientific inquiry and sociological practice. Course content covers the historical and cross-cultural variations in social stratification, systems of inequality, and the social policies associated with addressing inequality.

**P540 Principles of Sociological Theory and Practice (3 cr.)** This course will introduce graduate students to the theoretically informed practice of sociology. Students will develop the

ability to use social theory in the analysis of society and social life. Prerequisite: undergraduate course in social theory.

**P550 Statistical Techniques for Sociological Practice I (3 cr.)** Prerequisite: one basic undergraduate statistics course. Course focuses on how to use statistical analysis to answer common questions in the practice of sociology, as well as on what statistical techniques are useful to answer sociological practice questions, how to apply them and interpret their results. Specific methods to be covered include documentary, ethnographic, survey, experimental design, secondary data analysis, social indicators, focused literature reviews, and library research techniques.

**P560 Topics in Sociological Practice (3 cr.)** This is a graduate seminar in selected topic areas in sociology, exploring the nature of sociological practice within each area (e.g., policy issues and/or intervention strategies as applied to health).

**P570 Applied Research Methods (3 cr.)** Prerequisite: undergraduate course in sociological research methods. Course covers the methodological tools and practical knowledge needed to conduct applied social research. Students will be exposed to a variety of methods and will learn how to choose the most appropriate method for specific research problems and settings, and understand advantages and disadvantages for each.

**P571 Clinical Methods in Sociological Practice (3 cr.)** This course introduces the student to the range of methods and practices used in the field of clinical sociology, which focuses on the non-research roles of sociologists. Methods included in this course can be employed in work settings as consultants or staff.

## **Sociology**

**College of Arts and Sciences**  
**Bloomington**

**Chairperson** Chancellors' Professor Robert Robinson

**Departmental e-mail:** socinfo@indiana.edu

**Departmental URL:**  
<http://www.indiana.edu/~soc>

### **Graduate Faculty**

**Distinguished Professors** Karl Schuessler (Emeritus), Sheldon Stryker

**Chancellors' Professors** J. Scott Long, Bernice Pescosolido

**The Robert H. Shaiffer Class of 1967 Endowed Professor** William Corsaro

**Rudy Professors** Thomas Gieryn, David Heise, Pamela Walters

**Professors** Robert Althaus, Phillips Cutright (Emeritus), Donna Eder, Maurice Garnier, Allen Grimshaw (Emeritus), Elton Jackson (Emeritus), Douglas Maynard, Whitney Pope (Emeritus), Brian Powell, Robert V. Robinson, David Takeuchi, Michael Wallace, Martin Weinberg, Frank Westie (Emeritus), James Wood (Emeritus), David Zaret

**Associate Professors** Clem Brooks, Laurel Cornell, David James, Jane McLeod, Eliza Pavalko

**Assistant Professors** Arthur Alderson,\* Jason Jimerson,\* Patricia McManus,\* Kent Redding\*

**Adjunct Professor** Kirsten Gronbjerg (SPEA)

**Adjunct Associate Professor** Daniel Clark\* (Medicine-Indianapolis), Timothy Owens (Sociology-IUPUI)

**Adjunct Assistant Professor** Eric R. Wright (Sociology-IUPUI)

**Director of Graduate Studies** Professor Brian Powell, Ballantyne Hall 776, (812) 855-7624

**Degrees Offered** Master of Arts and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** Fifteen (15) credit hours in sociology with a 3.3 (B+) grade point average (may be waived for students with a strong undergraduate record in another field); satisfactory scores on the Graduate Record Examination General Test; three letters of recommendation.

**Course Requirements** A total of 30 credit hours, including 6 credit hours of the Sociological Research Practicum (S566 and either S567 or S569), S554, and either S510 or S530. An introductory undergraduate statistics course, such as S371, is a prerequisite for S554.

**Grades** Students must maintain a grade point average of at least 3.3 (B+) in all course work. No grade below B- in sociology courses will be counted toward this degree.

**Essay** The essay requirement is fulfilled by enrollment and participation in S566-S567 and preparation of an acceptable research paper.

### Doctor of Philosophy Degree

**Admission Requirements** Completion of the M.A. degree (or equivalent training) in sociology at a recognized institution with a grade point average of 3.3 (B+) or higher (students with a master's degree in a related field may be admitted, but may be required to remove deficiencies); three letters of recommendation; and satisfactory scores on the Graduate Record Examination General Test.

**Course Requirements** A total of 90 credit hours, consisting of no fewer than 60 credit hours of course work (including the 30 credit hours counting toward the M.A.) and up to 30 credit hours of dissertation research (S569). The required courses are those specified for the M.A. (including both S510 and S530), S540, S558, S650, one advanced methodology course, three 600-level courses, one 700-level seminar, and two elective courses.

**Grades** Students must maintain a grade point average of at least 3.3 (B+) in all course work. No grade below B- in sociology courses will be counted toward this degree.

**Outside Minor** Required (usually 9-15 credit hours); may be chosen from African studies, Afro-American studies, anthropology, Asian studies, business, cultural studies, economics, education, gender studies, geography, history, history and philosophy of science, human sexuality, Latin American and Caribbean studies, law, linguistics, mathematics, political science, population studies, psychology, religious studies, or West European studies. A field not listed may be chosen with approval of the director of graduate studies.

**Qualifying Examinations** All doctoral students are expected to demonstrate proficiency in sociological methods either by achieving a GPA of 3.3 (B+) or above in the required statistics and methods course sequence (S554, S558, S650, one advanced methods course), or by passing a doctoral examination in methodology. In addition, students must pass a written qualifying exam in a research specialty of their choosing. This qualifying exam is to be completed by the start of the student's fourth year in the graduate program.

**Dissertation Proposal** Students must pass an oral defense of their dissertation proposal.

**Final Examination** Oral defense of the dissertation.

**Ph.D. Minor in Sociology** Students from other departments or schools who wish to minor in sociology should consult with the director of graduate studies, who will ordinarily serve as the minor advisor. Students will be required to complete 12 credit hours of

course work; these courses must be completed with a grade point average of at least 3.0 (B). No more than one course should be taken below the 500 level. These requirements may be modified in particular cases by the director of graduate studies.

### Courses

**S308** Global Society (3 cr.)  
**S311** Politics and Society (3 cr.)  
**S312** Education and Society (3 cr.)  
**S315** Work and Occupations (3 cr.)  
**S319** Science, Technology, and Society (3 cr.)  
**S321** Sexual Diversity (3 cr.)  
**S324** Mental Illness (3 cr.)

**S325** Criminology (3 cr.)

**S338** Gender Roles (3 cr.)

**S409** Social Context of Schooling (3 cr.)

**S410** Topics in Social Organization (3 cr.)

**S413** Gender and Society (3 cr.)

**S417** Conversation Analysis (3 cr.)

**S419** Social Movements and Collective Action (3 cr.)

**S420** Topics in Deviance (3 cr.)

**S427** Social Conflict (3 cr.)

**S432** Small Group Processes (3 cr.)

**S433** Adult Socialization (3 cr.)

**S435** Social Psychology of the Self (3 cr.)

**S438** Childhood Socialization (3 cr.)

**S441** Topics in Social Theory (3 cr.)

**S450** Topics in Methods and Measurement (3 cr.)

**S500** Proseminar in Sociology (1 cr.; S/F grading)

**S506** Teaching of Undergraduate Sociology (3 cr.; S/F grading)

**S510** Introduction to Social Organization (3 cr.)

**S515** Introduction to Sociology (1 cr.; S/F grading)

**S519** Introduction to Sociology (1 cr.; S/F grading)

**S520** Introduction to Sociology (1 cr.; S/F grading)

**S525** Criminology (3 cr.)

**S538** Gender Roles (3 cr.)

**S409** Social Context of Schooling (3 cr.)

**S410** Topics in Social Organization (3 cr.)

**S413** Gender and Society (3 cr.)

**S417** Conversation Analysis (3 cr.)

**S419** Social Movements and Collective Action (3 cr.)

**S420** Topics in Deviance (3 cr.)

**S427** Social Conflict (3 cr.)

**S432** Small Group Processes (3 cr.)

**S433** Adult Socialization (3 cr.)

**S435** Social Psychology of the Self (3 cr.)

**S438** Childhood Socialization (3 cr.)

**S441** Topics in Social Theory (3 cr.)

**S450** Topics in Methods and Measurement (3 cr.)

**S530 Introduction to Social Psychology (3 cr.)**  
R: one course in sociology. Examines the broad range of work in social psychology. Emphasis is placed on the relation between the classic and contemporary literature in the field.

**S540 Sociological Theory (3 cr.)** A rigorous examination of a representative set of theoretical products, with the objective of understanding the basic structure and meaning of each and simultaneously learning about the creation of theory.

**S554 Statistical Techniques in Sociology I (3 cr.)** P: S371 or consent of instructor. Statistical analysis of single and multiple equation models with continuous dependent variables. May include techniques such as bivariate and multivariate regression, recursive and nonrecursive structural equation models.

**S558 Advanced Research Techniques (3 cr.)**  
The logic of analysis, including development of research questions, relationships between theory and evidence, research design, sampling, data collection strategies, reliability and validity, measurement, analysis, and drawing conclusions. Also includes an overview of data collection techniques such as surveys, interviews, field methods, and the use of archival and secondary data.

**S560 Topics in Sociology (3 cr.)** Selected topics in social organization and social psychology, including but not limited to the sociologies of work, sex roles, education, mental illness, science, sociolinguistics, socialization, deviance, sexual patterns and variations, and small group processes.

**S566-S567 Sociological Research Practicum I-II (1-3; 1-3 cr.)** Participation in all aspects of a sociological research project, including conceptualization and design, data collection, analysis, and report writing. Both may be repeated for credit.

**S569 M.A. Thesis (3 cr.)\***

**S606 Sociological Issues in College Pedagogy (3 cr.)** Introduction to topics such as learning theory, learning and teaching styles, and cognitive development. Focuses on assessment and practice of teaching, challenges to higher education, ethics, and professional responsibility.

**S610 Urban Sociology (3 cr.)** Historical and contemporary causes, trends, and patterns of urbanization throughout the world. Various approaches to studying the process of social urbanization, including ecological, social organizational, and political perspectives. Current developments and problems in urban planning.

**S612 Political Sociology (3 cr.)** Possible topics include experimental studies of power relationships, political socialization, political

\*May be repeated three times for credit.

attitudes, political participation, voting behavior, decision-making processes, theories of social power, organizational power systems and structures, the state as a social institution, and political movements.

**S613 Complex Organizations (3 cr.)** Theory and research in formal organizations: industry, school, church, hospital, government, military, and university. Problems of bureaucracy and decision making in large-scale organizations. For students in the social sciences and professional schools interested in the comparative approach to problems of organization and their management.

**S615 Problems in Demography and Ecology (3 cr.)** Sociological aspects of theories relating human beings and ecological environment. Selected topics, ranging from fertility and population change to community planning and urbanism in underdeveloped areas as well as Western cultures.

**S616 Sociology of Family Systems (3 cr.)** Focus on the nature, structure, functions, and changes of family systems in modern and emerging societies, in comparative and historical perspective. Attention is given to relationships with other social subsystems, and to interaction between role occupants within and between subsystems.

**S617 Social Stratification (3 cr.)** Nature of social stratification; comparison of caste, estate-class, and open-class systems; theories of stratification; characteristics of local and national stratification systems; comparative analysis of stratification systems in various parts of the world; social circulation, changes in stratification structure.

**S618 Sociology of Religion and Ideology (3 cr.)** The nature of beliefs and value systems and their institutional arrangements, with specific attention to the interrelationship of these systems to the larger social structure, in cross-cultural and historical perspective.

**S620 Deviance and Social Control (3 cr.)** Current theories of genesis, distribution, and control of deviant behavior. Theories about specific forms of deviant behavior, e.g., crime, suicide, and alcoholism, examined from standpoint of their implications for a comprehensive, general theory of deviant behavior.

**S621 Theory and Research in Human Sexuality (3 cr.)** A critical examination of sociological theory and research in the area of human sexuality. Historical and contemporary work will be considered.

**S631 Intergroup Relations (3 cr.)** Topics include nature of prejudice, theories of prejudice, psychology of attitudes related to

intergroup relations, critique and evaluation of current research of majority-minority relations, and formulation of research designs.

**S632 Socialization (3 cr.)** The processes of development of the individual as a social being and societal member, focusing on childhood or socialization into adult roles.

**S633 Social Interaction: Interpersonal Relations (3 cr.)** Focuses on social interaction processes. Topics include interpersonal perception, verbal and nonverbal communication, the presentation of self, ecological determinants of interaction, the structure of interactions, social exchange, and stable interaction systems (relationships).

**S640 Advanced Topics in Sociological Theory (3 cr.)** Historical development of sociological theory in Europe and the United States during the nineteenth and twentieth centuries, with emphasis on contrasting schools of theoretical thought.

**S647 Social Change (3 cr.)** Contemporary theories of social change, analysis of modernization processes such as industrialization and urbanization, examination of current social movements, and models of future societies.

**S649 Theory Construction (3 cr.)** Analysis of the types and structures of formal theory in sociology. Examination of the specific practices of theory construction.

**S650 Statistical Techniques in Sociology II (3 cr.)** P: S554 or consent of instructor. Statistical analysis of models with noncontinuous dependent variables. May include techniques such as logit and probit analysis, log-linear models, censoring, and sample selection models.

**S651 Topics in Quantitative Sociology (3 cr.)** P: S554, S650. Statistical analysis in social research; selected topics.

**S652 Topics in Qualitative Methods (3 cr.)** Selected topics in qualitative data collection and analysis. Various topics which could be covered in a given semester include audiovisual recording in natural settings, comparative/cross-cultural methods, content analysis, ethnographic methods, historical sociology, and intensive interviews and case studies.

**S655 Experimental Methods in Sociology (3 cr.)** Analysis of laboratory experiments; problems in experimentation; practice in conducting experiments.

**S656 Mathematical Applications in Sociology (3 cr.)** P: S650. Mathematical description of social systems and processes; computer simulation; mathematics and sociological theory.

**S657 Community Power, Politics, and Decision Making (3 cr.)** Cross-disciplinary perspectives on community influence structures, governmental forms, and the local and national processes generating community public policies. Research strategies appropriate to the study of these issues.

**S658 Selected Problems in Cross-Cultural Sociological Research (3 cr.)** Problems of research in different cultural settings. Adaptation of standard sociological techniques, development of research designs, administration of research in situations of limited resources.

**S659 Qualitative Methods in Sociology (3 cr.)** P: S558 or permission of instructor. Methods of obtaining, evaluating, and analyzing qualitative data in social research. Methods covered include field research procedures, participant observation, interviewing, and audio-video recording of social behavior in natural settings.

**S660 Advanced Topics (2-6 cr.)** Topics announced when course is to be offered.

All 700-level courses are research seminars. Topics vary each term.

**S700 Topical Seminar (3-12 cr.)**

**S706 Sociological Research in Higher Education (3 cr.)**

**S710 Social Organization I (3-6 cr.)**

**S711 Social Organization II (1-6 cr.)**

**S720 Deviance and Control I (3-6 cr.)**

**S721 Deviance and Control II (3-6 cr.)**

**S730 Social Psychology I (3-6 cr.)**

**S731 Social Psychology II (3-6 cr.)**

**S740 Sociological Theory I (3-6 cr.)**

**S741 Sociological Theory II (3-6 cr.)**

**S750 Sociological Methods I (3-6 cr.)**

**S751 Sociological Methods II (3-6 cr.)**

**S864 Readings in Sociology (cr. arr.)\*** Individual assignments.

**S866 Research in Sociology (cr. arr.)\***

**S869 Ph.D. Thesis (cr. arr.)\***

**G901 Advanced Graduate Research (6 cr.)**

## Graduate

**G591 Methods of Population Analysis and Their Applications (3 cr.)** A course in statistics. Techniques of measuring and analyzing population size and trends, fertility and mortality patterns, migration flows. Population estimates and projections. Major models of formal demography.

# Spanish and Portuguese

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Consuelo Lopez-Morillas

**Departmental e-mail:** [iguinnup@indiana.edu](mailto:iguinnup@indiana.edu)

## Graduate Faculty

**Professors** Juan Alborg (Emeritus), Maryellen Bieder, Luis Beltrán (Emeritus), J. Gordon Brotherton, Olga Impy, James Lee, Consuelo López-Morillas, Heitor Martins (Emeritus), Walter Poesse (Emeritus), Joseph Roca-Pons (Emeritus), Darlene Sadlier, Gustavo Sainz, Merle Simmons (Emeritus), Josep Sobrer, Frances Wyers (Emerita)

**Associate Professors** Mary Clayton, J. Clancy Clements, Luis Dávila, John Dyson, Catherine Larson, Kathleen Myers,\* Daniel Quilter\* (Emeritus), Russell Salmon (Emeritus)

**Director of Graduate Studies** Associate Professor Josep Sobrer, Ballantine Hall 804, (812) 855-9194

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate major in Spanish or its equivalent. (Students lacking a complete major must remove deficiencies.) Graduate Record Examination, General Test.

## Master of Arts Degree

**Admission** to the M.A. program does not imply that once the degree is received the student may automatically begin work for the Ph.D.; the department will decide in each case. The following requirements apply to all M.A. degrees.

**Final Examination** Six-hour written examination, based on a reading list, and a one-hour oral examination. Both must be passed at least two weeks before the end of the semester in which the degree is to be granted. Students must demonstrate a good command of oral and written Spanish language on the examinations. There are separate reading lists for students of Hispanic literature and Spanish linguistics.

**Master of Arts Degree with Concentration in Hispanic Literature**

**Course Requirements** A total of 30 credit hours, at least 24 credit hours of which must be

in departmental courses numbered 500 or higher; no more than two courses at the 400 level.

**Language** Reading knowledge of an approved second foreign language. Proficiency is satisfied as below under Doctor of Philosophy. Language Requirement.

**Master of Arts Degree with Concentration in Hispanic Linguistics**

**Course Requirements** A total of 30 credit hours of which at least 21 credit hours must be in Hispanic Linguistics. Students who have not taken S425 and S428, or the equivalent, must include them in their program. Nine credit hours may be from other departments, and indeed students are encouraged to explore their interests outside the department.

**Language Requirement** Reading knowledge of an approved second modern language; completion of Latin L300 with a grade of B (3.0) or better, or its equivalent. Proficiency is satisfied as below under Doctor of Philosophy. Language Requirement.

**Master of Arts Degree with Concentration in Luso-Brazilian Literature**

Requirements follow the same pattern as those for the M.A. degree with a major in Hispanic literature. A thesis (1-6 credits) is optional. With the approval of their advisor, students may take up to 10 credit hours of course work in a minor field.

**Master of Arts for Teachers Degree**

**Course Requirements** A total of 36 credit hours, of which 21 credit hours must be in Spanish, including 12 credit hours in Spanish and Spanish-American literature. Students should plan their study of literature in anticipation of the expectations implicit in the final examinations described below. In addition, students must have a knowledge of Spanish and Latin American culture equivalent to the completion of S411 and S412. Those who have not had courses in linguistics equivalent to S425, S426, and S428 will be required to take them. The remaining 15 credit hours will include 3 graduate credit hours in education approved by the M.A.T. advisor and additional courses in Spanish or Portuguese or Catalan or in related courses in other fields: anthropology, economics, education, folklore, fine arts, geography, history, Latin American studies, linguistics, and political science. Teaching certification is a requirement for this degree. (Refer to the section in this bulletin that describes general requirements for all M.A.T. degrees.) A student wishing to be certified in another state should consult that state's requirements.

**Final Examinations** Written and oral. Students will demonstrate knowledge of phonetics, applied linguistics, teaching methodology, and Hispanic culture and literature. Proficiency in literature should include a knowledge of periods and movements and common literary terms, as well as modern literature. The student will also be asked to demonstrate the ability to analyze individual works.

**Other Provision** Students must serve one year (longer at discretion of the department) as associate instructors in the department. Students who have taught elsewhere may petition the faculty to have that experience accepted as fulfilling this requirement.

**Doctor of Philosophy Degree**

Two plans of study are offered. The following requirements apply to both.

**Language/Research-Skill Requirement** For all three plans, completion of Latin L300 with a grade of B (3.0) or higher, or its equivalent. In addition, for Plans A and B, the student will be required to demonstrate a knowledge of two languages selected, with the consent of the student's advisor and the approval of the director of graduate studies, from Arabic, Catalan, French, German, Greek, Hebrew, Italian, Portuguese, and Russian. The proficiency requirement for Arabic, French, German, Greek, Hebrew, and Russian can be satisfied by passing a reading examination, or by completing one year of college instruction, with a grade of B (3.0) or better, in courses numbered 300 or higher in which the reading is done in the language; for French and German it can also be satisfied by passing F491-F492 and G491-G492, respectively, with a grade of B (3.0) or better. For Catalan, language proficiency is demonstrated by completing one year of college instruction, with a grade of B (3.0) or better, in courses numbered 400 or higher that are conducted in the language at Indiana University. For Portuguese, proficiency is demonstrated by completion, with a grade of B (3.0) or better, of P135 plus one course taught in the language at the 500 level or higher. For Italian, proficiency is demonstrated by completing a course numbered 300 or higher in which the reading is done in the language, with a grade of B (3.0) or better. A student specializing in the medieval field may substitute four semesters of college Latin for any one of the languages listed above. A student working in Hispanic Linguistics may, with the approval of the advisor and the director of graduate studies, substitute computer science for one of the languages. The requirement in modern languages will be satisfied as follows: advanced proficiency in one language, as

demonstrated by completing a 300- or 400-level course in literature conducted in the language at Indiana University or by fulfilling the in-depth proficiency requirement; and reading proficiency in the other language or a proficiency in mathematics, statistics, or computer science. For information about specific research-skill courses, consult the director of graduate studies.

**Ph.D. Minor in Spanish Literature** Doctoral students from other departments may complete a minor in Spanish literature by successfully completing no fewer than four Spanish literature courses (12 credit hours) listed in the University Graduate School Bulletin as carrying credit toward the Ph.D., of which no more than two may be at the 400 level.

**Final Examination** Oral, covering subject and field of the dissertation and relevant matters.

**Other Provisions** Competence in speaking Spanish fluently and with correct diction is expected of every student; hence, foreign residence in a Spanish-speaking country prior to receiving the Ph.D. is highly desirable.

Students must serve one year (longer at discretion of the department) as associate instructors in the department. Students who have taught elsewhere may petition the faculty to have that experience accepted as fulfilling this requirement.

**Literature**

**Major** Hispanic literature (within the major field, emphasis may be on Spanish and Spanish American or Luso-Brazilian literature).

**Minor** Twelve (12) credit hours or more in a related field. Some recommended fields: anthropology, Catalan, comparative literature, English, French, general linguistics, history, Latin, Latin American studies, philosophy, Portuguese (only for those working in Spanish), and West European studies. Ph.D. students in Spanish who wish to minor in Portuguese must take three graduate courses in literature beyond the foreign language requirement.

**Course Requirements** S603; 6 credit hours of seminar credit; and graduate courses in poetry, essay, theater, and prose fiction as well as courses in Spanish literature (medieval, Renaissance and baroque, eighteenth and nineteenth centuries, and contemporary) and Spanish American literature (colonial, nineteenth century, and contemporary). Work in the major and minor fields must total 75 credit hours in courses and seminars in addition to completion of a doctoral dissertation. Students in Luso-Brazilian

literature are advised to fulfill the same distributional requirements, but their programs will be individualized and dependent upon the approval of the graduate faculty in Portuguese.

**Qualifying Examination** Written and oral. The oral examination will be scheduled after the successful completion of the written examinations. Students working primarily in peninsular and Spanish American literature. Students working primarily in Portuguese will be examined over Luso-Brazilian literature and either Spanish peninsular or Spanish American literature. In addition, a written or oral examination may be required in the minor field, at the discretion of the minor department. The qualifying examination normally may be repeated only once. For details about examinations, write to the director of graduate studies.

**Hispanic Linguistics**

**Course Requirements** Core courses: 9 hours of 600-level courses in Hispanic linguistics, 3 hours of a 700-level course in Hispanic linguistics.

In addition the student will choose three areas of concentration for a total of 33 credit hours. In consultation with an advisor, students will build a coherent doctoral program, selecting concentrations that enhance both a research and teaching profile.

Possible concentrations include but are not limited to the following: historical linguistics, syntax, phonology, Romance, linguistics, linguistic theory, second language acquisition, sociolinguistics, psycholinguistics, educational, technology, curriculum and instruction, literature.

**Qualifying Examination** Students will take examinations in each of the three areas of concentration. The examining committee will determine whether the format is to be sit-down or take-home. If the exams are sit-down, then they will last nine hours, six hours, and three hours. The nine hour exam will cover the student's principal area as reflected by the dissertation topic. The three-hour exam will cover the third concentration consisting of nine credit hours. The six-hour exam will cover the other concentration.

**Courses**

**Spanish**

S407-S408 Survey of Spanish Literature I-II (3-3 cr.)

S411 Spanish Culture and Civilization (3 cr.)  
S412 Latin American Culture and Civilization (3 cr.)



- S413 Hispanic Culture in the United States (3 cr.)
- S415 Medieval and Golden Age Poetry (3 cr.)
- S416 Modern Hispanic Poetry (3 cr.)
- S417 Hispanic Poetry (3 cr.)
- S418 Hispanic Drama (3 cr.)
- S419 Modern Spanish Prose Fiction (3 cr.)
- S420 Modern Spanish American Prose Fiction (3 cr.)
- S421 Advanced Grammar and Composition (2 cr.) For M.A.T. students only.
- S423 The Craft of Translation (3 cr.)
- S425 Spanish Phonetics (3 cr.)
- S426 Introduction to Spanish Linguistics (3 cr.) For M.A.T. students only.
- S428 Applied Spanish Linguistics (3 cr.)
- S435 Literatura chicana y puertorriqueña (3 cr.)
- S450 *Don Quixote* (3 cr.)
- S470 Women and Hispanic Literature (3 cr.)
- S471-S472 Spanish American Literature I-II (3-3 cr.)
- S473 Hispanic Literature and Literary Theory (3 cr.)
- S474 Hispanic Literature and Society (3 cr.)
- S478 Modern Spanish Novel (3 cr.)
- S479 Mexican Literature (3 cr.)
- S480 Argentine Literature (3 cr.)
- S495 Hispanic Colloquium (1-3 cr.)
- The Teaching of Spanish
- S505 Summer Language Workshop (2 cr.) Two-week intensive summer language and culture workshop for school teachers in San Luis Potosí, Mexico. All-Spanish; live with families. Combination of individualized language development, culture seminars, and individual projects.
- S510 Foreign Study in Spanish (2-8 cr.) Formal study of Hispanic language, literature, and culture in a foreign country, with credit applying to the M.A.T. degree only. Does not count toward the 20 credit hours required in the department before courses are taken.
- Spanish and Spanish American Literature
- S504 Bibliography and Methods of Research (1-3 cr.)
- S512 Theory and Criticism (3 cr.) Focuses on major issues in literary theory, with attention to critical trends in the Hispanic world.
- S521-S522 Early Spanish Literature I-II (3-3 cr.)
- S531 Spanish Renaissance Literature (3 cr.)
- S535 Spanish Baroque Literature (3 cr.)
- S540 Spanish Enlightenment and Romanticism (3 cr.)
- S554 Spanish Realism and Naturalism (3 cr.)
- S564 Contemporary Spanish Literature (3 cr.)
- S571-S572 Spanish American Colonial Literature I-II (3-3 cr.)
- S573 Spanish American Romanticism and Realism (3 cr.)
- S575 Modernism in Spanish America (3 cr.)
- S581-S582 Contemporary Spanish American Literature I-II (3-3 cr.)
- S590 U.S. Latino Literature (3 cr.) Survey of Chicano, Continental Puerto Rican, and Cuban American literature written in Spanish, English, or both. Special emphasis on the Hispanic dialectic with English-speaking society with respect to literature, language, and culture. The course will be of a lecture/discussion nature and will be conducted in Spanish.
- S595 Introduction to Afro-Hispanic Literature (3 cr.) Introduction to the representation of those of African descent in a variety of Spanish-language formats (prose, poetry, film) from the end of slavery to the present. Examines movements such as Negritude and works by blacks and mulattos as well as texts about those same figures.
- S610 Topics in Spanish Medieval Literature (3 cr.) Topics include lyric poetry, *Mester de Clercía*, *Juglaría* and *Romancero*, prose, literature, and culture of Al-Andalus and medieval Spain.
- S620 Topics in Spanish Golden Age Literature (3 cr.) Topics include the picaresque, Renaissance, and Baroque prose, sixteenth- and seventeenth-century poetry, *comedia*, *Don Quixote*.
- S630 Topics in Spanish Eighteenth- and Nineteenth-Century Literature (3 cr.) Topics include the Enlightenment, Romantic drama, Romantic poetry, realism and naturalist prose, Galdós.
- S640 Topics in Spanish Twentieth-Century Literature (3 cr.) Topics include prose, poetry, drama, Generation of 1927, post-civil war fiction.
- S660 Topics in Colonial Spanish American Literature (3 cr.) Topics include the chronicles, the epic, lyric poetry, prose.
- S670 Topics in Spanish American Literature of Independence and the Nineteenth Century (3 cr.) Topics include literature of independence: essay, fiction, poetry; nineteenth-century poetry, nineteenth-century prose.
- S680 Topics in Contemporary Spanish American Literature (3 cr.) Topics include poetry, drama, short story, novel, essay.
- S695 Graduate Colloquium (1-3 cr.) Selected topics on Spanish or Spanish American literature.
- Hispanic Linguistics
- GRAD G611 Romance Linguistics (3 cr.)
- S501 Spanish Historical Grammar (3 cr.) P: fulfillment of Latin requirement. History of their meanings from Latin origins to contemporary standard Spanish.
- S503 Bibliography and Research Methods in Hispanic Linguistics (3 cr.) History of Hispanic linguistics scholarship, research skills such as bibliography compilation, and abstract/paper writing on and critical reading of topics in Hispanic linguistics.
- S509 Spanish Phonology (3 cr.) Introduction to the sound system of Spanish. Various theories are presented and analyzed. Some treatment of dialectal phenomena included.
- S511 Spanish Syntactic Analysis (3 cr.) Introduction to the analysis of syntactic data. Focus on developing theoretical apparatus required to account for a range of syntactic phenomena in Spanish.
- S513 Introduction to Hispanic Sociolinguistics (3 cr.) Examines the relationship between language and society in the Spanish-speaking world. Surveys a wide range of topics relevant to Spanish: language as communication, the sociology of language, and linguistic variation.
- S515 The Acquisition of Spanish as a Second Language (3 cr.) Surveys the empirical research conducted on Spanish and investigates how a nonnative linguistic system develops. Course includes four topics: morpheme acquisition studies, interlanguage development, input processing, and Universal Grammar.
- S517 Methods of Teaching College Spanish (3 cr.) Trains graduate students to teach the freshman and intermediate college courses in Spanish.
- S602 Spanish Historical Grammar II (3 cr.) P: fulfillment of Latin requirement. History of the system of sounds and forms, of words and their meanings from Latin origins to contemporary standard Spanish.
- S603 History of the Spanish Language (3 cr.) P: fulfillment of Latin requirement. The rise and development of Spanish in the Iberian peninsula and Latin America, seen in historical and cultural contexts. The history of sounds, forms, and words; major dialects; the evolution of prose style to the eighteenth century.
- S609 Spanish Phonology II (3 cr.) P: S509 or equivalent. Introduces recent developments in phonological theory and their application to Spanish, as well as non-derivational approaches. Focuses mainly on nonlinear analyses.
- S611 Advanced Spanish Syntax (3 cr.) P: S511 or equivalent. Advanced study of modern approaches to synchronic syntax as applied to contemporary Spanish. Focus on current theories and refinement of linguistic argumentation, as well as on critical analysis or research.
- S615 Hispanic Dialectology (3 cr.) Principles of linguistic geography and dialectology. History and description of dialects in the Iberian Peninsula and Spanish America. Alternates between Peninsular and Latin American dialectology; may be repeated once for credit.
- C613 Catalan Linguistics (3 cr.)
- P601 Portuguese Historical Grammar (3 cr.)
- P605 Portuguese Linguistics (3 cr.)
- Seminars
- With the consent of the department, all of the seminars below may be taken more than once if the topic changes or if the seminar is scheduled for an entire academic year.
- S712 Seminar: Themes in Spanish Linguistics (cr. arr.)
- S721 Seminar: Spanish Authors (cr. arr.)
- S761 Seminar: Themes in Hispanic Literature (cr. arr.)
- S765 Seminar: Catalan Literature (cr. arr.)
- S777 Seminar: Studies on Style (cr. arr.)
- S781 Seminar: Spanish American Authors (cr. arr.)
- S785 Seminar: Hispanic Regional Literatures (cr. arr.)
- S802 M.A. Thesis (cr. arr.)\*
- S803 Individual Reading in Spanish or Spanish American Literature and Language (cr. arr.) P: M.A. degree. Students must make arrangements in advance with the professor who will supervise their readings.
- S805 Ph.D. Thesis (1-10cr.)\*
- Catalan
- C400 Catalan Language and Culture I (3 cr.)
- C410 Catalan Language and Culture II (3 cr.)
- C450 Modern Catalan Literature (3 cr.)
- C613 Catalan Linguistics (3 cr.) P: C400. Study of contemporary Catalan language and its history. Deals with phonology, grammar, and lexicology.
- C614 Medieval Catalan Literature (3 cr.) Study of literary works of the thirteenth, fourteenth, and fifteenth centuries.
- C803 Individual Reading in Catalan Literature or Language (1-3 cr.) Students must make arrangements in advance with the professor who will supervise their readings.
- Portuguese
- P412 Brazilian Civilization (3 cr.)
- P425 Structure of Portuguese Language (3 cr.)

# Speech and Hearing Sciences

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Larry Humes

**Departmental e-mail:** sphsdept@indiana.edu

**Departmental URL:** <http://www.indiana.edu/~sphsdept>

## Graduate Faculty

**Professors** Jean Anderson (Emerita), Moya Andrews, Phil Connell, Mary Elbert (Emerita), Aubrey Epstein (Emeritus), Judith Gierut, Larry Humes, Diane Kewley-Port, Robert Millisen (Emeritus), Rita Naremore, Kennon Shank (Emeritus), Charles Watson (Emeritus)

**Associate Professors** Barbara Fazio, Karen Forrest, Nicholas Hippskind

**Associate Scientist** Gary Kidd

**Assistant Professors** Raquel Teresa Anderson,\* Laura Murray\*

**Adjunct Professors** Daniel Dimmsen (Linguistics), Steven Franks (Linguistics), Donald Robinson (Emeritus, Psychology), Charles Schmidt (Music)

**Graduate Advisors** *Master's Program-Speech-Language Pathology:* Professor Rita Naremore, Speech and Hearing Center C185, (812) 855-2724; *Master's Program-Audiology:* Professor Larry Humes, Speech and Hearing Center C193, (812) 855-3507; *Ph.D. Program:* Dr. Gary Kidd, Speech and Hearing Center C136, (812) 855-8105.

**Degrees Offered** Master of Arts, Master of Arts for Teachers, and Doctor of Philosophy

**Areas of Specialization** Speech, language, and hearing sciences, speech-language pathology, audiology. Specific course requirements for these specializations are listed in the *Student Handbook*, which is available in the departmental office, Speech and Hearing Center C100.

## Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate major in speech and hearing sciences or other evidence of adequate background for one or more areas of specialization. Deficiencies may be removed by course work or special examination. Graduate Record Examination General Test required.

**Grades** All graduate students must maintain at least a 3.0 (B) grade point average. Failure to do so for two semesters may result in dismissal from the program.

## Master of Arts Degree

**Course Requirements** A minimum of 36 credit hours, of which 15 must be in courses numbered 500 and above; maximum of 6 credit hours in 5780.

**Minor** Students who wish to earn the M.A. degree and who do not choose to write a thesis are required to complete at least 6 credit hours of course work in a minor area. Such courses must be selected in consultation with a sponsoring faculty member and must be approved by the faculty before the student's enrollment in them. The courses should focus on a single content area, enhance the student's professional preparation, and lie beyond the scope or level of courses specifically required for the M.A. degree. Courses taken in fulfillment of the minor area requirement must be passed with at least a grade of B.

**Practicum Requirements** For students who wish to obtain clinical certification, satisfactory clinical performance is an integral part of the master's program. Such students must be registered in a practicum (S561, S570, S563, or school practicum) each semester following the completion of S461. Such students must also complete at least three semesters of practicum with grades of B (3.0) or higher in order for the department to approve the student's application for certification as an audiologist or speech-language pathologist with the American Speech-Language-Hearing Association. Students should contact Dr. Elizabeth McCrea for all matters related to clinical certification by the national association.

**Thesis Requirement** Students who want the M.A. in speech and hearing sciences must present a thesis or complete a minor as described above. Procedures to be followed when writing a thesis can be found in the department's *Master's Student Handbook*.

**Final Examination** A written comprehensive examination is required of all students who do not write a thesis.

## Master of Arts for Teachers Degree

The M.A.T. degree is available; interested students should consult a departmental advisor.

## Doctor of Philosophy Degree

**Course Requirements** At least 90 credit hours, including advanced (postbaccalaureate) course work and dissertation. A student must select, in consultation with the advisor, one

major area in the department and at least one minor area outside the department. Requirements and examination procedures for the outside minor are determined by the appropriate representative of the minor department or program.

**Other Requirements** Any student admitted to the doctoral program must complete a first-year, second-year, and dissertation research project. See the department's *Doctoral Student Handbook* for procedural details; in no way, however, does this handbook substitute for the University Graduate School Bulletin.

**Research-Skill Requirement** Candidates must demonstrate proficiency in a research skill before being admitted to candidacy. Each course must be passed with a grade of B (3.0) or higher to satisfy the proficiency requirement. (1) The student's academic program must include a minimum of 6 credit hours in experimental design and statistics (500 level or above) or the equivalent. (2) No more than 12 credit hours of the course work taken to satisfy this requirement may count as part of the 90 credit hour minimum required for degree completion.

**Grades** No course with a grade below B (3.0) may be counted toward degree requirements.

**Advisory Committee** Each student will be assigned an advisory committee consisting of four members. The majority of the members must be members of the graduate faculty. The advisory committee shall approve the student's program of study and advise the student until successful completion of the qualifying examination.

**Qualifying Examination** Guidelines suggest that the student must complete successfully a series of written exams ranging from a conventional timed examination to a research paper composed over a period of several weeks. Examination in the outside minor area is at the discretion of the minor-field representative. Information about specific examination formats is available in the *Doctoral Student Handbook*.

The advisory committee, in conference with the student, will determine for whom the student will write and the exam format. Persons preparing questions will read the answers and pass or fail the student. Students will be informed of the results in writing by the chairperson of the advisory committee within three weeks. Procedures for rewriting a part or all of the qualifying examination are left to the discretion of the advisory committee. Qualifying examinations may be rewritten once only. Oral examination is also required.

**Ph.D. Minor in Speech and Hearing Science**  
Students wishing a minor in speech and hearing sciences must have an advisor from the department. The advisor will approve the student's program of course work in the minor and will serve on the student's advisory committee, research committee, or both. The student is required to complete at least 12 credit hours of graduate course work in the minor department with a grade of B or higher. A written qualifying examination is not required, but will be administered at the request of the major department.

## Courses

**General**  
**S580 Introduction to Graduate Study and Research (1 cr.)** Bibliographical resources, methods of research, and professional writing.

**S680 Independent Study (1-6 cr.)\***

**S780 M.A. Thesis (1-6 cr.)\***

**S880 Ph.D. Thesis (1-6 cr.)\***

## Speech and Hearing Sciences

**S461 Introduction to Supervised Clinical Practice (2 cr.)**

**S474 Introduction to Audiological Testing (3 cr.)**

**S475 Advanced Audiological Testing (3 cr.)**

**S477 Auditory Disorders (3 cr.)**

**S478 Teaching the Hearing Handicapped (3 cr.)**

**S501 Neural Bases of Speech and Language (3 cr.)** Neuroanatomy of central and peripheral brain structures mapped to vocal tract structures; sensory and motor physiology; theories of motor control; neural control of vocalization and upper airway during propositional and nonpropositional speech; localization of receptive and expressive language brain areas, neuropathology and pathophysiology of central and peripheral nervous system lesions.

**S502 Acoustic Phonetics (2 cr.)** P: S302 or L541. Examines speech perception and the acoustics of speech production in normally developing or speech-language disordered populations. A brief overview of speech acoustics and speech perception in normal adults will be included. Laboratory experiences.

**S510 Supervision in Speech Pathology and Audiology (3 cr.)** P: consent of instructor. Study of the supervisory process as it relates to speech pathology and audiology.  
**S515 Topical Seminar in Speech Pathology (1-6 cr.)** Topics of current interest; literature on fundamental behavior related to speech.

**S519 Mathematical Foundation for Speech and Hearing Sciences (2-3 cr.)** Provides mathematical background for core graduate courses in speech and hearing sciences. Covers analysis and generation of periodic and aperiodic acoustic signals and decision theory. Focuses on interactive, project oriented modules.

**S520 Theoretical Bases for Phonological Disorders (3 cr.)** P: S420. Theoretical bases for the evaluation of abnormal articulation. Advanced approaches to management. Experimental evidence and areas for further research.

**S522 Digital Signal Processing (3 cr.)** P: one semester of calculus, one course in computer programming. Introduction to digital signal processing for students with a limited background in mathematics. Examines several standard applications in speech processing including LPC. Covers complex numbers, z-transforms, and filter design. Lab experiences with DSP software included.

## S532 Early Communicative Development:

**Intervention Issues (2 cr.)** Provides basic information concerning infant and toddler communicative development, conditions which place infants at risk for speech and language disorders, and assessment and intervention procedures within various models of service delivery.

**S534 Language Development in School Age Children (3 cr.)** R: S333. Survey of theoretical perspectives and research findings related to language development in children aged 5 through 12. Particular attention to relationships between oral language skills, reading, and writing. Consideration of language and context, including differences between language demands of home and school.

**S535 Academically Based Language Intervention with School-Age Children (2 cr.)** P: S534. R: at least one semester of S561. Explores issues involved in an academically based language intervention program with a focus on the child's need to use language to learn and to develop literacy. Setting goals for intervention and developing intervention plans will be discussed in the context of a collaborative model using a curriculum-based approach.

**S536 Language Diversity and Clinical Practice (2 cr.)** Examines the effects on current clinical practice in speech-language pathology of the linked issues of racial, cultural, and linguistic diversity. Both assessment and intervention issues will be considered.

**S537 Diagnosis and Management of Adult Aphasia (3 cr.)** P: S501. In-depth study of diagnosis and management of adult aphasia and related disorders. Recommended

procedures for evaluation and treatment of aphasics, including practicum and experience.

**S538 Language Development in Atypical Populations: Learning Disabilities, Autism, and Mental Retardation (3 cr.)** P: S333 and S436 or consent of instructor. An introduction to three clinical populations likely to have difficulties with language learning. Aspects of perceptual, cognitive, and social growth as they influence language acquisition; patterns of language development and use; issues related to intervention.

**S540 Voice Disorders (3 cr.)** P: S444 or consent of instructor. Normal and abnormal voice production; diagnosis and management of voice problems. Emphasis will be on clinical intervention strategies for a wide variety of organic and functional voice disorders.

**S541 Aerodigestive Tract Disorders (3 cr.)**  
Aerodigestive tract dynamics and disorders including assessment and treatment. Rehabilitation options associated with tracheostomy, laryngectomy, and dysphagia.  
**S542 Care of the Professional Voice (3 cr.)**  
Physiological, psychosocial, and occupational aspects of professional voice use. A multidisciplinary perspective on research and practice in the areas of otolaryngology, social psychology, vocal pedagogy, voice science, and communication disorders. Examines historical and current approaches to preventing, assessing, and treating voice breakdown in singers and other professional voice users.

**S545 Adult Cognitive-Communication Disorders (2 cr.)** Issues in communication and cognitive disorders resulting from right-hemisphere brain damage and dementia. Discussion will include the relation between the nature and locus of brain lesion and the type and severity of communication and cognitive disorders, and assessment and treatment issues.

**S550 Stuttering (2 cr.)** P: S444. Theories of the nature and causes of stuttering, with emphasis on learning theories and physiological processes; evaluation techniques for children and adults; approaches to clinical management; techniques of parent and family counseling.

**S555 Motor Speech Disorders (3 cr.)** P: S201, S501. Disorders of speech motor programming (dyspraxia) and speech production (dysarthria) resulting from damage to primary motor, sensory, or sensorimotor pathways in the central and/or peripheral nervous system are considered at auditory-perceptual, acoustic, and physiologic levels. Assessment and management of motor speech disorders.  
**S560 Craniofacial Anomalies (2 cr.)** P: S201. Orofacial clefts and other genetically-based craniofacial disorders are considered in

relation to speech production and swallowing. Assessment protocols include auditory-perceptual evaluation, vocal tract imaging (nasendoscopy and fluoroscopy), and speech aerodynamics. Introduction to therapy procedures.

**S561 Practicum (1-3 cr.; maximum 4 cr. toward degree)** P: S461. Supervised clinical methods for advanced students. Diagnosis,

organization, and administration of therapy.

**S562 Practicum in Supervision (1 cr.)** P: S510, S561. Practicum in the supervision of clinical practice in speech-language pathology and audiology.

**S563 Externship in Speech-Language-Hearing Services (1-3 cr.)** P: S561 or S570. Intensive participation in the clinical activities of community agencies, hospitals, or other service providers. Available only to advanced students in clinical program.

**S570 Practicum in Audiology (1-3 cr.; maximum 4 cr. toward degree)** P: consent of instructor. Supervised clinical work in diagnostic and rehabilitative clinical audiology.

**S571 Auditory Anatomy and Physiology (3 cr.)**  
Structure and function of the mammalian auditory system, including aspects of both cellular and systems physiology.

**S572 Clinical Electrophysiology (2 cr.)**

Focuses on current applications of electrophysiologic testing, including auditory evoked potentials, otoacoustic emissions, and electronystagmography. Will address role of each of these test procedures in the diagnostic audiologic test battery.

**S573 Laboratory in Amplification (1 cr.)**

Laboratory exercises in hearing aid selection, fitting and evaluation; earmold acoustics; hearing aid construction; and electroacoustic evaluation of instruments. To be taken concurrently with S576.

**S574 Medical Audiology (3 cr.)** P: consent of instructor. Survey of the medical aspects of audiology pertaining to pathologies encountered in medical environments with emphasis on specific etiologies.

**S576 Amplification for the Hearing Impaired (3 cr.)** Types and components of electroacoustic hearing aids, earmold acoustics, and procedures for the selection, evaluation, and fitting of hearing aids.

**S577 Industrial Audiology (2 cr.)** P: consent of instructor. The role of audiology, emphasizing identification audiometry, damage-risk criteria, measurement and control of noise, conservation procedures, and medico-legal problems.

**S578 Audiological Instrumentation and Calibration (3 cr.)** Fundamentals of acoustics and acoustical measurements including waveform measurements, spectral analysis,

computer software for both linguistic analyses and experimental presentation.

**S702 Acoustic Research in Speech, Language, and Hearing Sciences (3 cr.)** Course topics vary according to student interests including speech production and perception in hearing impaired populations, language development, adult neurogenic speech and language disorders, voice analysis, and speech perception. Lab components to include digital recording, acoustic analysis, and speech synthesis.

## TESOL/Applied Linguistics

College of Arts and Sciences  
Bloomington

**Departmental e-mail:** [tesol@indiana.edu](mailto:tesol@indiana.edu)

**Departmental URL:** <http://www.indiana.edu/~tesol/>

**Chairperson** Professor Harry L. Gradman

### Graduate Faculty

**Professors** Kathleen Bardovi-Harlig, Harry L. Gradman, Beverly Hartford

**Assistant Professor** Bill Johnston\*

**Adjunct Rudy Professor** Albert Valdman (French & Italian)

**Adjunct Professor** Robert Port (Cognitive Science, Computer Science, Linguistics)

**Adjunct Assistant Professors** Kenneth de Jong (Linguistics), Samuel G. Obeng (Linguistics)

**Academic Adviser for TESOL and Applied Linguistics** Professor Harry L. Gradman, Memorial Hall 309, (812) 855-3302

**Degrees Offered** Master of Arts in Linguistics with a concentration in TESOL and Applied Linguistics, Doctor of Philosophy in Linguistics with a concentration in TESOL and Applied Linguistics (degree offered by Linguistics), and Certificate in TESOL and Applied Linguistics

### Special Departmental Requirements

(See also general University Graduate School requirements.)

### Master of Arts Degree

**Admission Requirements** Admission to the M.A. program will be based on evaluations of (1) undergraduate grade record, (2) level of achievement in the Graduate Record Examination General Test, (3) three letters of recommendation, and (4) undergraduate

exposure to linguistics and related course work. Students not satisfying requirement (4) may be admitted but may be required to do course work prerequisite to introductory graduate courses.

**Thesis** Optional; maximum of 4 credit hours.  
**Final Examination** None.

### TESOL and Applied Linguistics

**Course Requirements** A total of 30 credit hours, including T510, T511, T532, T534, T535, T550, L503 may be required for students without a background in linguistics; T560 is also required for international students only. Additional electives as approved by the department. A grade point average of 3.0 (B) is required in 500-level courses in linguistics.

**Foreign Language Requirements** Reading knowledge of one foreign language approved by the department.

### Certificate in TESOL and Applied Linguistics

Students not intending to get a master's degree with a major in applied linguistics may wish to pursue a program leading to the Certificate in TESOL and Applied Linguistics. The requirements for such a certificate include 20 credit hours, approved by the department, in linguistics and applied linguistics courses. Normally, students will complete at least L503 or its equivalent, T532, T534, T535, and T550. Other hours will be selected in consultation with a departmental advisor. A grade point average of 3.0 (B) must be maintained for the 20 credit hour certificate program. The certificate is a postbaccalaureate award.

### Doctor of Philosophy Degree in Linguistics with a concentration in TESOL and Applied Linguistics

**Admission Requirements** Admission to the Ph.D. program will be based upon evaluation of (1) previous academic record, (2) level of achievement in the Graduate Record Examination General Test, (3) three letters of recommendation, and (4) previous exposure to TESOL/APPLIED linguistics and related course work.

**Course Requirements** A minimum of 90 credit hours, including dissertation. Specific requirements include one graduate course each in phonetics, phonology, syntax, historical linguistics, and language acquisition, plus at least four courses in linguistics at the 600-700 levels. L653, the first half of the field methods sequence, may not be counted if it is used in partial fulfillment of the language structure requirement. Additional course

requirements may be set by the student's advisory committee.

**Minor** The choice of a minor field should be agreed to by the student's advisory committee. The specific requirements for the minor are established by the department that grants the minor. The student is responsible for ascertaining what those requirements are and for meeting them.

**Advisory Committee** All students in the Ph.D. program will select an advisory committee consisting of at least three faculty members, one of whom should normally represent the student's minor field. The committee must be selected no later than the end of the semester following the completion of the master's degree at Indiana University, or, in the case of students entering the program with master's degrees from other institutions, no later than two semesters after matriculation.

Students will plan their programs with the advisory committee, which will be responsible for counseling students with regard to the qualifying examination, setting the examination, and administering it.

**Foreign Language Requirements** Three languages: (1) Reading or speaking knowledge of two foreign languages, one of which should be either French, German, or Russian; and (2) knowledge of the structure of a language or languages other than English and outside the student's general language family (choice to be determined in consultation with the student's advisory committee).

**Qualifying Examination** Comprehensive; specific focus and scheduling of the examination determined by the student's advisory committee.

**Research Proposal** After nomination to candidacy, the student will select a research committee composed of no fewer than three members of the Department of TESOL and Applied Linguistics faculty and an outside representative. This committee must approve the proposed dissertation topic.

**Final Examination** Oral defense of dissertation. This defense is open.

### Ph.D. Minor in TESOL and Applied Linguistics

The minor consists of a minimum of 12 credit hours of TESOL and applied linguistics or related courses. A grade point average of 3.0 (B) or better must be achieved in these courses. The specific program for satisfying this requirement must be developed in consultation with the student's minor advisor.

**English as a Foreign Language** The Department of TESOL and Applied Linguistics

also offers English Language Improvement courses which do not carry graduate credit. The courses, designed for the international student who needs instruction in English as a second language, are T100 (0 cr.); Intensive English; and T101 (1-9 cr.): English Language Improvement.

### Courses

**T510 Applied Traditional and Structural English Grammar (3 cr.)** An examination of pregenerative treatments of English grammar with emphasis on their pedagogical application in the teaching of English as a second language.

**T511 Applied Transformational English Grammar (3 cr.)** P: L503. Readings in generative theory with emphasis upon the ability to analyze within the framework of a transformational grammar. Special attention to generative treatments of English syntax for pedagogical purposes.

**T514 Phonology and Second Language Learning and Teaching (3 cr.)** Introduction to phonology as it applies to the learning and teaching of second languages. Does not satisfy the phonology requirement for the Ph.D. in linguistics.

**T522 Survey of Applied Linguistics (3 cr.)** P: L503 or equivalent. Intensive readings on selected topics relevant to the acquisition of second languages, sociolinguistics, bilingualism, testing, and research directions. Readings will, for the most part, be current and subject to change as the course is offered.

**T532 Second Language Acquisition (3 cr.)** A survey of the major theories of first and second language learning and their potential applications to language development strategies.

**T534 Linguistic Resources and the Teaching of English as a Second Language (TESOL) (3 cr.)** Review of current resources in linguistic theory and psycholinguistics as they apply to aspects of teaching English as a second language. To be taken concurrently with T535 TESOL Practicum.

**T535 TESOL Practicum (3 cr.)** Under supervision, students teach English as a second language to adult learners. The course also provides experience in testing, placement, and materials preparation. Classroom lectures focus on issues related to the art and profession of language teaching. To be taken concurrently with L534 Linguistic Resources and the Teaching of English as a Second Language (TESOL).

**T538 Second Language Writing (3 cr.)** P: L503 and T532 or their equivalents. Examines the relationship of second language writing to composition theory, writing research, second language acquisitions, and second language

teaching. Topics include theories of second language composition, second language writing processes, reading as input for writing, measurement of proficiency, and individual variation.

**T539 Pragmatics and Second Language Learning (3 cr.)** This course familiarizes students with principles and issues in pragmatics and cross-cultural pragmatics. Students will learn appropriate data collection techniques and will collect primary data, learn to analyze spoken and written data, and discuss the application of pragmatics to language learning and teaching, cross-cultural research, and international communication.

**T550 Language Testing (3 cr.)** P: L503 or equivalent. Consideration of theory of assessing competence in second languages. Preparation and administration of various language testing instruments. Primary emphasis on English as a second language.

**T556 The Language Laboratory: Hardware and Software (3 cr.)** Instructional rationale, equipment, and practical operation of the language laboratory. Lectures on theory combined with actual use of laboratory equipment.

**T560 American Culture (3 cr.)** P: for international students only. A survey of issues related to the culture and character of the people of the United States. Topics include the national, social, and linguistic origins of the American people, political and social institutions, and the arts.

**T600 Topics in TESOL and Applied Linguistics (3 cr.)** May vary with topic. Intensive study and analysis of selected issues and problems in TESOL and Applied Linguistics. Topics in this course are of particular interest to the second language practitioner. May be taken more than once with different topics.

**T622 English Dialects (3 cr.)** Investigation of the basic features of English dialects as formally structured systems. Attitudes toward speech and the relationship of language differences to the attainment of social and educational goals.

**T632 Current Research in Second Language Acquisition (3 cr.)** P: L532. This course addresses issues in recent research in second language acquisition. Examines selected cases illustrating the relation of second language acquisition studies to linguistic theory. Emphasis on the collection and analysis of acquisition data.

**T660 Contrastive Analysis (3 cr.)** P: L503, T510, and T511 or equivalent. Practice in various methods of differential analysis with application to selected languages in terms of second language development.

**T690 Advanced Readings in TESOL and Applied Linguistics (1-4 cr.)**

**T695 M.A. Thesis Research in TESOL and Applied Linguistics (1-4 cr.)**

**T700 Seminar on Current Issues in TESOL and Applied Linguistics (1-4 cr.)** This seminar will deal with major books and articles which have defined important areas of debate in the current development of linguistic theory. The specific title will be announced well in advance of each semester. Course may be retaken for up to 12 credit hours.

**T711 Seminar in Applied Linguistics (4 cr.)** Selected problems in linguistics applied to language teaching. May be repeated for credit when topic changes.

## Telecommunications

**College of Arts and Sciences**

**Bloomington**

**Chairperson** Professor Walter Gantz

**Departmental e-mail:** anlang@indiana.edu

**Departmental URL:** <http://www.indiana.edu/~telecom/>

### Graduate Faculty

**Professors** Richard Burke (Emeritus), Susan Eastman, Walter Gantz, Annie Lang

**Associate Professors** Donald Agostino, Michael McGregor, Harmeet Sawhney, Herbert Terry, David Waterman

**Assistant Professor** Erik Bucy\*

**Director of Graduate Studies** Professor Annie Lang, Radio-TV Center, (812) 855-2017

**Degrees Offered** Master of Arts, Master of Science, Joint Master of Arts and Doctor of Jurisprudence (jointly with the School of Law), and Doctor of Philosophy (Ph.D.)  
telecommunications track in the Mass Communications Program)

### Special Departmental Requirements

(See also general University Graduate School requirements.)

Common requirements and policies for the M.A. and M.S. programs include the following:

**Admission** (1) At least a B (3.0) average in an undergraduate program, (2) appropriate level of performance on the Graduate Record Examination General Test (at least one Graduate Record General Test score above 600 and none below 500), (3) statement of purpose,

(4) three letters of recommendation, (5) completion of departmental "Background Information" form, and (6) TOEFL score greater than 600 for international students.

Applications from students who have not majored in communication at the bachelor's level are welcomed. If admitted, these students may be required to take supplementary courses.

**Grades** B (3.0) average or above. Any semester's work averaging less than B will result in the student's being placed on academic probation. Accumulation of three individual course grades of C (2.0) or lower for graduate credit will result in dismissal of the student from the program. The departmental Graduate Committee evaluates each student's progress toward the degree every semester.

**Advisory Committee** Each student will receive initial guidance from the director of graduate studies. During the second semester, each student will select a three-member advisory committee which will be responsible for approving the student's program. At least two members of this advisory committee must be from the Department of Telecommunications.

### Master of Arts Degree

The M.A. program is especially designed for (1) students planning on pursuing the Ph.D. program in mass communications, (2) students seeking management and intermediate-level research positions in electronic media, and (3) students seeking teaching positions in small colleges.

**Course Requirements** A minimum of 30 credit hours, including (1) T501 Philosophy of Inquiry in Telecommunications, T502 Introduction to Research Methods in Telecommunications, and either T503 Telecommunications Theory, or T504 Telecommunications Institutions and Industry, and (2) thesis, which will normally be taken for six credits. At least 21 credit hours should be taken within the Department of Telecommunications. Depending on the student's interests, a group of at least three courses, related to the area of the thesis, is selected.

**Thesis** Oral defense required, administered by the advisory committee.

### Master of Science Degree

The M.S. program is designed to prepare students for careers in multi-media design or public or commercial electronic media management.

## Course Requirements

- Concentration in Electronic Media Management** A minimum of 36 credit hours, including (1) T501 Philosophy of Inquiry in Telecommunications and T504 Telecommunications Institutions and Industry, and (2) one appropriate methods course. Thesis not required. At least 18 credits must be taken within the Department of Telecommunications.
- Final Examination** Students must pass a comprehensive written and oral examination, which is administered by the advisory committee.
- Concentration in Immersive Mediated Environments (MIME)** A minimum of 36 credit hours, including (1) T570 Art, Entertainment, and Information, (2) T571 Applied Cognitive and Emotional Psychology, (3) 6 credits of T575 Directed Group New Media Design Project, (4) an approved internship, and (5) thesis. Students must identify a major and minor emphasis area and take at least four courses in the major area and two courses in the minor area.

**Internship** The internship is a supervised experience in multimedia or new media. The internship must be approved by the student's advisory committee, the internship coordinator, and the graduate advisor.

**Thesis** Required; oral defense administered by the advisory committee.

## Joint Degree: Master of Arts in Telecommunications and Doctor of Law Jurisprudence in the School of Law

To be eligible to receive the degrees of Doctor of Jurisprudence and Master of Arts or Master of Science in Telecommunications, which must be received simultaneously, a student must:

- Complete 77 semester hours of credit in the School of Law including all of the required course work; and
- Complete 27 hours of credit in the Telecommunications Department, including all of its required course work; and
- Earn a cumulative grade point average of at least 2.3 on all work taken in the School of Law and at least 3.0 on all work taken in the Telecommunications Department.

## Doctor of Philosophy Degree in Mass Communications Track

The Department of Telecommunications, in cooperation with the School of Journalism, offers a doctoral program in mass communications.

**Admission Requirements** (1) Master's degree from a recognized institution, (2) at least a 3.5 average in a master's program, (3) appropriate level of achievement on the Graduate Record Examination General Test (at least one Graduate Record General Test score above 600 and none below 500), (4) statement of purpose, (5) three letters of recommendation, (6) completion of departmental background information form, and (7) TOEFL score greater than 600 for international students. Students holding only the bachelor's degree are advised to complete M.A. requirements in telecommunications as an integral part of the doctoral program. Applications from students who have not majored in communication at the master's level are welcomed. If admitted, these students may be required to take supplementary courses. Consult the director of graduate studies as to whether graduate credit might be granted for a noncommunication master's degree and if supplementary course work is necessary.

**Grades** As described above for master's programs.

**Course Requirements** A minimum of 90 credit hours, including (1) the core consisting of T501 Philosophy of Inquiry in Telecommunications, T502 Introduction to Research in Telecommunications Methods, T503 Telecommunications Theory, and T504 Telecommunications Institutions and Industry with a grade of at least a B in each course; (2) T600 Proseminar in Telecommunications Research for four semesters; (3) 12 credit hours in a methodology area; (4) a minimum of 6 courses in the Department of Telecommunications if student is transferring 16-30 credits, 8 courses if transferring 1-15 credits, and 10 courses (at least 4 completed after receipt of the M.A.) if student has an M.A. from this department; (5) completion of a minor as required by the minor department; (6) no more than 6 credits of independent study; and (7) no more than 15 credit hours in the dissertation.

Within these requirements, students design a rigorous and coherent individualized plan of study with the help of their advisory committee. This program is to be approved by the student's advisory committee, the graduate director (with the advice of the graduate committee), and the department chair by the end of the second semester of course work.

**Minor** Consistent with University Graduate School policy, each student must have at least one minor subject. Course work in the minor must be approved by the student's advisory committee and must meet the requirements of the minor department.

**Research-Skill Requirement** Twelve credits of approved research skills courses approved by the student's advisory committee (see number 3 under "Course Requirements" above).

**Qualifying Examination** Written and oral, covering the methodology area, the core, the minor, and the student's individualized areas of specialization.

**Teaching or Research Requirement** Students normally serve at least one year as associate instructors or research assistants. This requirement will be waived only when, in the opinion of the departmental chairperson, unusual circumstances justify such action.

**Final Examination** Oral, primarily a defense of the dissertation.

### Ph.D. Minor in Telecommunications

Graduate students from other departments may choose telecommunications as an outside minor. A minimum of 15 credits in the department at the 500 level or above is required, including T501.

## Courses

### Required Courses

#### T501 Philosophy of Inquiry in

Telecommunications (3 cr.) Entry-level comparative study of the origin and development of dominant paradigms applied to telecommunications by researchers and policy makers. Credit not given for both R501 and T501.

#### T502 Introduction to Research Methods in

Telecommunications (3 cr.) Introduction to quantitative and qualitative research methodologies used in telecommunications research. Credit not given for both R502 and T502.

#### T503 Telecommunications Theory (3 cr.)

Introduces students to the wide range of social scientific and humanistic theories which guide research in telecommunications.

#### T504 Telecommunications Institutions and

Industry (3 cr.) Studies major segments of the electronic communication industries and the impact of technological developments, public policy, and structural factors on how organizations operate and interrelate.

### Methods Courses

**T510 Research Methods in Message Analysis (3 cr.)** Study of the content analysis method used to describe and to profile the message elements presented in the media. Credit not given for both R510 and T510.

#### T511 Research Methods in Audience

Analysis (3 cr.) Analysis of audience characteristics and behaviors. Emphasizes methods associated with the assessment of,

and audiences for, the electronic media in the United States. Credit not given for both R511 and T511.

### Applied Telecommunications Courses

#### Concentration in Electronic Media Management

**T521 Telecommunications Financial and Sales Management (3 cr.)** P: T504 or equivalent, or management background/experience. Overview of fiscal principles, practices, and problems in radio, TV, cable, and telephone systems. Considers public policy in relation to economic factors in broadcasting and other electronic media. Credit not given for both R521 and T521.

#### T522 Production Management (3 cr.)

Examination of the business side of the television production process emphasizing the role of the producer, marketing, and evaluation issues. Credit not given for both R522 and T522.

#### T603 Topical Seminar in

Telecommunications Management (1-3 cr.) P: consent of instructor.

### MIME courses

#### T570 Art, Entertainment, and Information

(3 cr.) Introduces students to the idea of information as art and as entertainment through readings and multimedia experience. Students will learn basic tools of multimedia design, interactive programming, digital paint and draw tools, and 3-D software.

#### T571 Applied Cognitive and Emotional

Psychology (3 cr.) Introduces students to basic theories in cognitive and emotional psychology and focuses on how these theories could be applied to the design of immersive mediated environments.

#### T575 Directed Group New Media Design

Project (3 cr.) P: admission to MIME and consent of instructor. Group project in new media design. Each class will develop, design, and implement a new media product. May be repeated for a maximum of 6 credit hours.

#### T605 Seminar in Immersive Mediated

Environments (1 cr.) Introduction to current research in immersive mediated environments such as virtual reality, telepresence, and new media entertainment through the work of faculty members from Indiana University and visiting scholars. May be repeated for a maximum of 4 credit hours.

### Law and Policy Courses: M.A. and Ph.D. Programs

#### T529 Comparative Studies in

Telecommunications Policy (3 cr.) Current developments, trends, and issues in British, Canadian, European, Japanese, and Post-Soviet telecommunications policy. Credit not given for both R529 and T529.

**T530 Survey of Telecommunications Policy in the United States (3 cr.)** Current developments, trends, and issues in American telecommunications policy. Credit not given for both R530 and T530.

**T601 Topical Seminar in Telecommunications Law and Public Policy (1-3 cr.)** P: consent of instructor.

**T629 Telecommunications Policy-Making Process (3 cr.)** P: T530 or equivalent. Study of policy-making process with emphasis on telecommunications policy. Credit not given for both R629 and T629.

**T630 History of Telecommunications Law (3 cr.)** Examination of the impact of electric and electronic communications systems during their first 150 years, 1820-1970, on the social and legal structures in the United States. Credit not given for both R630 and T630.

**T652 Topics in International Communications (3 cr.)** Emphasizes the writing and presentation of research papers. Topic areas will vary, but may include communication for social change in developing areas, international television program flow, and similar topics. May be repeated for credit.

**Processes and Effects Courses: M.A. and Ph.D. Programs**

**T541 Theory and Research: Individual Level (3 cr.)** Introduction to the theory and research relevant to mass media studies at the individual level of analysis. Credit not given for both R541 and T541.

**T542 Theory and Research: Macro-Social Level (3 cr.)** Introduction to theoretical orientations and research findings at the macro-social level of analysis. Credit not given for both R542 and T542.

**T602 Topical Seminar in Telecommunications Processes and Effects (1-3 cr.)** P: consent of instructor.

**T641 Children and Media (3 cr.)** P: T503 or equivalent. Detailed examination of theoretical orientations and research specifically focused on children and media. Credit not given for both R641 and T641.

**T642 Communication Campaigns (3 cr.)** Study of public communication campaigns, emphasizing the role of media in influencing attitudes and behavior related to social issues. Credit not given for both R642 and T642.

**T651 Communication, Technology, and Society (3 cr.)** Research seminar to consider defining new technologies and how the development of communication technologies and their structure and organization have been influenced by society and have, in turn, affected society.

### Additional Courses

**T540 Special Projects in Telecommunications (cr. arr.)** P: consent of chairperson. Individual readings or production projects in broadcasting. Maximum of 3 credit hours for any one project.

**T597 Internship (0-3 cr.)** P: permission of faculty advisor. Supervised internship in telecommunications, electronic media, or multi-media design.

**T600 Proseminar in Telecommunications Research (1 cr.)** Introduction to current telecommunications research through the work of departmental members and visiting scholars. May be repeated for credit up to four semesters.

**T800 Thesis: Telecommunications (1-6 cr.)**\* P: consent of chairperson.

### Graduate

**C741 Ph.D. Research in Mass Communications (cr. arr.)**\* P: consent of instructor.

## Theatre and Drama

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Leon Brauner

**Department e-mail:** pbrussel@indiana.edu

### Graduate Faculty

**Professors** Leon Brauner, Winona Fletcher (Emerita, Afro-American Studies), David Hawes (Emeritus), Roger Herzog, Howard Jensen, R. Keith Michael (Emeritus), George Pinney,\* Frank Silberstein,\* Albert Wertheim (English), Ronald Wainscott

**Associate Professors** Bruce Burgun, Dale McFadden,\* Marion Michael\* (Emerita), Wesley Peters,\* Dennis Reardon,\* Robert Shakespeare,\* Rakesh H. Solomon\*

**Director of Graduate Studies** Professor Ronald Wainscott, Theatre Building 215, (812) 855-9021

**Degrees Offered** Master of Arts, Master of Arts for Teachers, Master of Fine Arts, and Doctor of Philosophy

### Special Departmental Requirements

(See also general University Graduate School requirements.)

**Admission Requirements** Undergraduate major in the field or other evidence of adequate background. Deficiencies may be removed by course work or special examination. Graduate Record Examination

General Test required. M.F.A. applicants will be required to audition, interview, or submit examples of appropriate work for evaluation.

### Master of Arts Degree

**Course Requirements** A total of 30 credit hours, of which 15 credit hours must be in departmental courses numbered 500 and above, including T500; maximum of 5 credit hours in T895. Up to 10 credit hours may be taken in an allied field or area of specialization in another department.

**Language Requirement** Ability to translate scholarly material on theatre from one foreign language.

**Master's Essay** A student may satisfy the master's essay requirement in one of three ways: (1) by submitting a suitable term or seminar paper, revised to the satisfaction of a two-member faculty committee; (2) by writing an original master's essay not based on any previous paper; or (3) by writing a formal master's thesis (maximum of 5 credit hours in T895).

**Examination** A written examination on the M.A. reading list in dramatic literature, theory, and theatre history. The examination may be repeated once.

### Master of Arts for Teachers Degree

**Course Requirements** A total of 36 credit hours. Of the 20 credit hours required in the major field, 15 must be in courses numbered 500 or above, including T500; up to 16 credit hours may be taken in an allied field or area of specialization in other departments.

### Master of Fine Arts Degree

**Special Requirements** Applicants must provide evidence of a high degree of technical skill and creative ability in the area of special interest. At the end of each year in residence, the student's skill and creative ability will be evaluated as evidenced by work done in the Department of Theatre and Drama. Only students who have clearly demonstrated growth and excellence will be permitted to remain in the program.

**Course Requirements** A total of 60 credit hours of graduate work, with an emphasis in one of the following areas: playwrighting, acting, directing, scenic design, lighting design, costume design, or theatre technology. The 60 credit hours will include 3 credit hours in the study of resources and materials in the student's area of special interest and not fewer than 6 credit hours in the area of theatre history, dramatic theory, and dramatic literature. When appropriate, up to 12 credit hours (15 credit hours in costume design) may

be taken in an allied field in another department. A maximum of 10 credits may be taken in M.F.A. thesis. The distribution of course work will be determined by the student and advisor. A minimum of four semesters or equivalent summer sessions must be spent in residence on the Bloomington campus.

**Production Thesis** Required.

**Examination** Oral defense of the thesis.

### Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours, of which 50-60 must be in the major field, including 30 credit hours of courses numbered 500 or above, at least 6 credit hours in advanced seminars, and 15 credit hours of dissertation.

**Minor** Approximately 15 credit hours within another department in an area related to drama and theatre.

**Other Provisions** To demonstrate an acquaintance with the tools, techniques, and reporting of theatre research, all Ph.D. students are expected (a) to have written a research thesis at the master's level (if not, a term paper or other evidence of research writing skill should be submitted); (b) to have taken a graduate-level course in research methods (if not, T500 must be taken in the first year of residence); and (c) to show an ability to translate scholarly material on theatre from two languages, usually selected from French, German, Russian, Italian, and Spanish. Consult the director of graduate studies for specific details and approval of language selections.

**Examinations** Four comprehensive oral examinations (theatre before 1500, 1500-1800, 1800-1915, and 1915-present), and a qualifying examination (written and oral) in one specific area projected for dissertation investigation. Comprehensives may be taken individually, in any order, and at any time acceptable to both student and faculty. The qualifying examination may be taken only when all course work and language requirements have been completed. A representative from the student's minor field will be invited to participate in the qualifying examination. The student will be denied further participation in the doctoral program upon failing the qualifying examination twice.

### Courses

**T325 Voice and Speech (3 cr.)**

**T390 Creative Work in Summer Theatre (1-3 cr.; may be repeated for a maximum of 6 credit hours.)**

**T410 Movement for the Theatre (3 cr.)**

**T420 Acting IV (3 cr.)**



**T423 Acting V (3 cr.)**  
**T425 Stagecraft II (3 cr.)**  
**T426 Scene Design II (3 cr.)**  
**T430 Stage Costuming II (3 cr.)**  
**T433 Costume Design (3 cr.)**  
**T434 Historic Costume for the Stage (3 cr.)**  
**T435 Electronics for Theatre Technicians (3 cr.)**

**T438 Lighting Design (3 cr.)**  
**T442 Directing II (3 cr.)**  
**T443 Directing III (3 cr.)**  
**T458 Screenwriting (3 cr.)**  
**T460-T461-T462 Development of Dramatic Art I-II-III (3-3-3 cr.)**

**T468 Non-Western Theatre and Drama (3 cr.)**  
**T500 Research Methods and Materials (1.5 cr.) (S/F grading)** Methods and materials of theatre research, principles of scholarly investigation, and strategies of production research. Must be taken during the first term of residence.

**T501 Introduction to Historiography (1.5 cr. S/F grading)** P: T500. Reading and discussion of current historiographical problems and methods particular to research and scholarly reporting in theatre history, theory, and literature.

**T510 Advanced Movement for the Theatre (3 cr.)** P: T410. Advanced study of movement for actors and directors. Emphasis on eye training, alignment, and the familiarization of various period, idiomatic, and ethnic dance forms used in the theatre.

**T515 Studies in Oral Interpretation (1-3 cr.)** P: T315 or consent of instructor. Theories of oral interpretation and their application to performance; analysis and performance of literary texts; techniques and practice of readers' theatre. May be repeated to a maximum of 9 credits.

**T520 Studies in Acting I (3 cr.)** P: consent of instructor. History and analysis of major theories of acting.

**T521 Studies in Acting II (1-3 cr.)** P: consent of instructor. Application of major theories of acting to performance. May be repeated to a maximum of 9 credits.

**T522 Studies in Acting III (1-3 cr.)** Analysis of script; application of vocal and physical techniques of characterization to various forms and types of drama. May be repeated to a maximum of 9 credits.

**T525 Speech for the Stage (3 cr.)** P: S325. Advanced study of the voice as it relates to the actor; with emphasis on resonance, rate, volume; the use of the voice in working with a text; phonetics; exercises and practical projects.

**T526 Advanced Scene Design (3 cr.)** P: T426. To provide the advanced student with a wide variety of theatrical and nontheatrical assignments in design, including portfolio preparation.

**T527 Theatre Planning (3 cr.)** P: consent of instructor. Function and design of theatre plant with attention to needs of audience and theatre personnel.

**T528 Studies in Stage Scenery (1-3 cr.)** P: T526 or consent of instructor. Selected problems in designing stage scenery; composition and style. May be repeated to a maximum of 9 credits.

**T529 Studies in Theatre Technology (1-3 cr.)** P: consent of instructor. The application of engineering methods to solve electronic, acoustical, optical, and mechanical problems; use of computer systems for information storage, manipulation, and retrieval; design and execution of projects. May be repeated to a maximum of 9 credits.

**T533 Studies in Stage Costuming (1-3 cr.)** P: T430 and T433 or consent of instructor. Selected problems in costume materials and methods, costume design and historic fashion; application to styles and forms of theatrical production. May be repeated to a maximum of 9 credits.

**T538 Studies in Stage Lighting (1-3 cr.)** P: T435 and T438 or consent of instructor. Selected problems in the controllable properties and functions of stage lighting; optics, photometry, and instruments; control and dimming systems; application to styles and forms of theatrical procedure. May be repeated to a maximum of 9 credits.

**T563 Forms and Styles in Modern Theatre and Drama (3 cr.)** Study of plays in relation to such styles as realism, naturalism, expressionism, and absurdism.

**T565-T566 American Drama and Theatre I-II (3-3 cr.)** I. Beginnings to 1890; II. 1890 to the present. Either semester may be elected independently.

**T567 European Drama from Molière to Ibsen (3 cr.)** Representative French, German, Italian, and Russian plays.

**T568 Ibsen and Strindberg (3 cr.)** Intensive study of the major plays of Ibsen and Strindberg.

**T570 Studies in Classical and Medieval Theatre (3 cr.)** Concentrated study of Greek, Roman, and medieval theatre.

**T571 Studies in Renaissance and Baroque Theatre (3 cr.)** Concentrated study of significant figures, practices, and dramas in the European theatre from 1500 to 1800.

**T572 Studies in Romantic and Realistic Theatre (3 cr.)** Concentrated study of European and American theatre from 1800 to 1915. Emphasis on romanticism, realism, and the reactions to realism.

**T573 Studies in Modern and Contemporary Theatre (3 cr.)** Concentrated study of significant practices, trends, and figures in the European and American theatre from 1915 to the present.

**T583 Topics in Theatre and Drama (1-3 cr.)** Studies in special topics not ordinarily covered in other departmental courses. May be repeated once for credit if topic differs.

**T585 Theatre Management (3 cr.)** Problems in managing a theatre: selection of plays, special public relations. Lecture and practical projects.

**T600 Directed Research (1-6 cr.)** P: T500 or equivalent and consent of instructor. Individual supervised research projects.

**T662 Comparative Theatre and Drama: Melodrama (3 cr.)** The "third form" of drama, from melodramas of Euripides to tragicomedies and melodramas of modern television and motion pictures.

**T700 Independent Study (cr. arr.)\*** P: consent of instructor and department chairperson.

**T701 Readings in Theatre and Drama (cr. arr.)\***

**T720 Internship in Acting (1-9 cr.)** Internship in a professional theatre for one semester or equivalent period of time. Required of all students seeking the M.F.A. degree in acting. Ordinarily taken during student's last year of course work. May be repeated for a maximum of 9 credits.

**T750 Seminar in Structure of Drama (3 cr.)** P: T550, T555-T556 or equivalent. Projects in the

analysis of different forms and types of drama. Each student is required to complete and report on a sequence of analytical interpretations of the structure of assigned plays.

**T765 Seminar in American Theatre and Drama (3 cr.)** Selected topics. May be repeated if the topic differs.

**T774 Seminar in Stage Interpretation of Selected Plays (3 cr.)** Study of selected plays through various periods; problems of interpretation and staging for present-day audiences. May be repeated if the topic differs.

**T775 Seminar in Theatre History (3 cr.)** Selected problems concerning theatres and staging methods in Europe in a restricted period. May be repeated if the topic differs.

**T895 M.A. Thesis (cr. arr.)\***  
**T897 M.F.A. Thesis (cr. arr.)\***  
**T899 Ph.D. Thesis (cr. arr.)\***

## Therapeutic Outcomes Research

Indianapolis

**Program Director** Professor Neil Oldridge

**Departmental e-mail:** ahltgrad@iupui.edu

**Departmental URL:** <http://www.sahs.iupui.edu/tor/formastupui/shtml>

### Graduate Faculty

**Professors** Deborah Cullen,\* Joyce MacKinnon,\* Neil Oldridge, Mark S. Sothmann

**Associate Professor** Douglas Perry,\* William S. Quillen\*

**Graduate Advisor** Neil Oldridge, 1140 W. Michigan Street, Indianapolis, IN 46202, (317) 278-1875.

There have been three major eras in the evolution of the US health-care system since the late 1940's: expansion, cost-containment, and now assessment and accountability. In the expansion era, health care underwent remarkable growth in technology, training, and delivery. Emphasis was on the perfection of health care, with no consideration of costs or resource demands. Spiraling costs and disenchantment with the curative power of technology brought on the cost-containment era. Emphasis was now placed on limiting spending and maximizing productivity, often at the expense of patient satisfaction. Today, there is a growing understanding of the balance between use of health-care resources on one hand and patient benefits on the other, or between assessment and accountability.

Based on a more sophisticated awareness of what actually constitutes the costs and benefits of treatment, emphasis is now placed on rational use of resources in light of a realistic appraisal of therapeutic benefits. Patient-centered outcomes research concentrates on the assessment of therapeutic interventions under conditions of real, not ideal, practice. Allied health professionals are particularly well positioned to conduct therapeutic outcomes research because their clinical work is oriented toward the holistic factors that outcomes research purports to measure: multidimensional assessment of health status and improvement of patient quality of life. Moreover, as demand for useful and valuable outcomes measurement continues to grow among health-care institutions and organizations, allied health professionals are increasingly being called upon to conduct outcomes assessment at their place of employment.

### Master of Science

**Admission Requirements** Students accepted into the program must meet all requirements of both University Graduate School and the School of Allied Health Sciences. Applicants must submit the following: (1) official undergraduate transcripts; (2) a 300- to 500-word personal statement of academic and professional goals; (3) three letters of recommendation from those familiar with applicants' academic and professional performance; (4) official scores of the Graduate Record Examination (GRE); and (5) for international students, official TOEFL scores. The minimum admission requirements are:

1. A bachelor's degree from an accredited institution.
2. Eligibility for license or credential in a health profession.
3. Total undergraduate GPA of at least 3.00 on a 4.00 scale.
4. GRE scores of at least 500 each for the verbal and analytical sections.
5. If applicable, a TOEFL score of at least 600.

**Course Requirements** A total of 30 credit hours beyond the bachelor's degree, of which 12 credit hours are in health outcomes, 3 credit hours are in electives, and 15 credit hours are in research (including thesis work).

**Thesis Requirement** The capstone experience is the writing and submission of a thesis based on original research conducted by the student and supervised by a thesis committee. Curricular electives are focused on developing expertise to articulate and research a testable hypothesis in a specific content area pertaining to patient-centered outcomes under the direction of a research advisor holding graduate faculty membership in University

Graduate School. These must follow the Indiana University Guide to the Preparation of Theses and Dissertations.

### CURRICULUM

#### Health Outcomes (12 cr.):

AHLT W510 Trends and Issues in Allied Health (3 cr.)

SPEA H517 Managerial Epidemiology (3 cr.)

OPEA H615 Outcomes Assessment and

Outcomes Management (3 cr.)

AHLT W560 Topics in Patient-Centered

Outcomes Research (3 cr.)

Electives (3 cr.) (In consultation with graduate advisor)

#### Research (15 cr.):

GRAD G651 Introduction to Biostatistics I (3 cr.)

AHLT W520 Research Methodology in Allied Health (3 cr.)

AHLT W570 Research Communication in Allied Health (3 cr.)

AHLT Z599 Thesis in Health Sciences (6 cr.)

AHLT W799 Master's Thesis Continuation

(1 cr., can be repeated)

Total Minimum Credits: 30 cr.

### Courses in Therapeutic Outcomes Research

Courses offered in the School of Allied Health Sciences

A "P" refers to a course prerequisite and a "C" to a course that must be taken concurrently.

#### AHLT W510 Trends and Issues in Allied Health (3 cr.)

A seminar course to review pertinent literature and other sources of information as a basis for discussing trends and issues affecting the therapeutic professions and the health-care delivery system.

**AHLT W520 Research Methodology in Allied Health (3 cr.)** P: G651 or equivalent.

Fundamental concepts of research, ranging from philosophical foundations to practical applications. Course provides the conceptual framework in which graduate students may develop their own research agenda. In keeping with the diversity of research, this course strives to introduce graduate students to the entire continuum of research paradigms, from qualitative, naturalistic inquiry to quantitative, experimental designs.

#### AHLT W560 Topics in Patient-Centered

**Outcomes Research (3 cr.)** Explorations of selected patient-centered outcomes assessment methodology and research evidence related to allied health science professions at an advanced level.

**AHLT W570 Research Communication in Allied Health (3 cr.)** P: W520 and consent of both instructor and research advisor.

Instructor and consultation in the preparation of master's thesis proposals, including computer applications for conducting on-line literature searches, developing an individual bibliographic database, designing an original research project, and devising a sound methodology. Final outcome is a completed thesis proposal for submission to a graduate student's thesis committee. Course is open only to allied health graduate students pursuing the research/thesis track in their program of study. Students must begin the course with a specific research agenda already approved by their research advisor.

**AHLT Z599 Thesis in Health Sciences Education (3 cr.)** Individual investigation in the form of an organized scientific contribution or a comprehensive analysis in a specified area related to health sciences education.

#### AHLT Z799 Master's Thesis Continuation

(1 cr., can be repeated) Used as continuation credits for completing the master's thesis in a format acceptable to the student's advisory committee, leading to successful defense of the final product. May be repeated for credit.

### Courses offered in other IUPUI

#### Schools:

GRAD G651 Introduction to Biostatistics I (3 cr.)

SPEA H517 Managerial Epidemiology (3 cr.)

SPEA H615 Outcomes Assessment and Outcomes Management (3 cr.)

### Urban Affairs

School of Public and Environmental Affairs  
Bloomington

**Urban Affairs Committee** Professor Barry Rubin (Public and Environmental Affairs), Chairperson; Professors Bruce Jaffe (Business), Roger Parks (Public and Environmental Affairs), David Wildasin (Economics); Associate Professor Philip Parnell (Criminal Justice)

**Academic Advisor** Professor Barry Rubin, Public and Environmental Affairs Building 330, (812) 855-0731

### Ph.D. Minor in Urban Affairs

Students in doctoral programs at Indiana University may choose urban affairs as an outside minor. To do so, the student must secure a faculty advisor from the urban affairs committee in consultation with the academic advisor for urban affairs (the faculty advisor

must not be in the student's major department). The advisor will serve as the representative of the urban affairs committee in all matters relating to the minor. The advisor shall decide on the character of the examination in the minor field, if any, and shall certify that the student has met the requirements of the program when this has been done.

**Course Requirements** Twelve (12) credit hours of courses in urban affairs that carry graduate credit, selected from at least two different disciplines outside the student's major. The choice of courses must be made in consultation with the student's urban affairs advisor from an approved list, with the consent of the advisor, other appropriate courses may be substituted.

**Grades** Minimum grade point average of 3.0 (B) required.

### Victorian Studies

College of Arts and Sciences  
Bloomington

**Chairperson** Professor Andrew H. Miller

### Graduate Faculty

**Distinguished Professor** Susan Gubar (English)

**Professors** James Andrews (Communication and Culture), Patrick Brantlinger (English), Frederick Churchill (Emeritus, History and Philosophy of Science), Donald Gray (Emeritus, English), M. Jeanne Peterson (History), Stephen Watt (English), Paul Zietlow (Emeritus, English)

## Visual Sciences and Physiological Optics

School of Optometry  
Bloomington

**Director** Professor Graeme Wilson

### Graduate Faculty

**Professors** Merrill Allen (Emeritus), Joseph Bonanno, Robert DeVoe (Emeritus), David Goss, S. Lee Guth (Emeritus), Gary Hafner, Gordon Heath (Emeritus), Gerald Lowther, Edwin Marshall, Paul Pietsch (Emeritus), P. Sarita Soni, Larry Thibos, Graeme Wilson

**Associate Professors** Carolyn Begley, Arthur Bradley, Ronald Everson (Emeritus), Sally Hegeman\*

**Assistant Professors** Susana Chung,\* Shaban Demirel,\* Douglas Horner, Donald Miller,\* Bill Rainey\*

**Academic Advisor** Professor Graeme Wilson, Optometry Building 511, (812) 855-7595

**Degrees Offered** Master of Science and Doctor of Philosophy

The Visual Sciences and Physiological Optics Program is designed primarily for students wishing to prepare themselves for teaching and research in the sciences that relate to vision.

**Admission Requirements** Course requirements are flexible to accommodate students with interests in visual science but with varying backgrounds. A bachelor's degree (or equivalent) is required. Course work with appropriate laboratories in the following areas is strongly recommended: optics, computing and engineering, physics, biology, mathematics through differential and integral calculus, statistics, and psychology of sensation and perception.

**Degree Requirements** Ordinarily, students must demonstrate intermediate-level competence in three of the following areas: (1) visual anatomy, (2) visual optics, (3) visual physiology and biochemistry, (4) monocular visual function, and (5) ocular motility and binocular visual function. Competence in these areas is assumed for those who have recent optometric degrees from recognized programs. Others may demonstrate competence by (1) successful completion (minimum grade of B) of V700 and V701, or (2) successful completion of relevant courses (see "Competency Courses"), or (3) successful completion of written examinations.

Each semester, all graduate students are required to attend, and usually to participate in, the weekly School of Optometry Visual Sciences Seminar (V765). Participation implies that the seminar will be taken for credit and an expectation of an annual presentation. Students who have accumulated sufficient credit hours for graduation will not be required to register, but will be expected to continue to participate as part of the educational process.

Students commence their research training by joining an on-going research project directed by a faculty member chosen by the student during the first few weeks in residence. The research topic will be formulated in consultation with the faculty member and an advisory committee. The topic may or may not be in the same field in which the student expects to do dissertation research.

### Course of Study Guidelines

Completion of the competency course requirement provides students with a breadth of knowledge. In addition, both the master's and doctoral programs require that students identify an area of focus in which they will complete their research. The area can be chosen from any basic or clinical area in which our research faculty have active research programs. These include visual optics, ocular physiology, contact lenses, myopia development, low vision, invertebrate receptor cell biology, psychophysical studies of normal and abnormal vision, low vision, ocular disease, and pediatric optometry.

### Master of Science Degree

**Course Requirements** A total of 30 credit hours is required, of which 15 credit hours must be didactic hours in visual sciences and physiological optics (or approved substitutes), generally excluding seminars. Students holding the O.D. degree or enrolled concurrently in the O.D. and M.S. programs may accelerate progress by receiving graduate credit for relevant work completed in the optometry curriculum. In regard to credits for prior or concurrent O.D. work and/or credit for relevant competency courses (see "Competency Courses"), no more than 4 credit hours may apply to the requirement of 15 didactic credit hours.

**Research Requirements** Candidates must submit a written research report by the end of the first year in residence. Students enroll in 3 hours of research credit per semester. A thesis research proposal must be submitted and approved by the end of the first year of study.

**Thesis** Required.

## Doctor of Philosophy Degree

**Course Requirements** A total of 90 credit hours is required. Of these, a minimum of 30 credit hours will come from didactic courses, including courses in the minor subject, but generally excluding seminars.

Because students are expected to read the important literature in their chosen field, study of a foreign language may be required by the student's advisory committee.

Students who hold recent optometric degrees from recognized institutions or who are enrolled concurrently in the O.D. and Ph.D. programs may accelerate progress by receiving graduate credit for relevant work completed in the optometry curriculum. In regard to credit for prior or concurrent O.D. work and/or credit for certain competency courses (see "Competency Courses"), no more than 6 credit hours may apply to the requirement of 30 didactic credit hours.

**Research Requirements** Written research reports must be submitted by the end of each year in residence until the student advances to candidacy. The student enrolls in 3 hours of research credit per semester.

**Minor Subject** Students will select at least one minor in any relevant field of study, subject to formal approval by their advisory committee. Interdepartmental minors, as described in the University Graduate School Bulletin, are permissible.

**Qualifying Examination** A student will be nominated to candidacy for the Ph.D. degree only after successful completion of written and oral qualifying examinations specified by the advisory committee. The requirements for 30 credit hours of didactic course work and two annual research reports must be fulfilled prior to the qualifying examination. Enrollment in the program will be terminated if the student twice fails the qualifying examination.

### Courses

**V595 First-Year Research (1-5 cr.)\*** Required to complete with a grade of A-F within the first year.

**V695 Second-Year Research (1-5 cr.)**

**V700 Introduction to Visual Sciences I (4 cr.)** The first of a two-semester sequence of courses which provides a comprehensive introduction to the visual sciences for graduate students enrolled in programs for Visual Sciences, Neurosciences, Psychology, or Cognitive Sciences.

**V701 Introduction to Visual Sciences II (4 cr.)** The second of a two-semester sequence of courses which provides a comprehensive introduction to the visual sciences for graduate

students enrolled in programs for Visual Sciences, Neurosciences, Psychology, or Cognitive Sciences.

**V703 Refractive Anomalies I (3 cr.)** Optics and epidemiology of refractive anomalies of the human eye.

**V704 Refractive Anomalies II (3 cr.)** Development, progression, and management of myopia.

**Physiology (4 cr.)** Basic biology and physiology of the ocular surface, including the cornea, conjunctiva, and tear film.

**V706 Ocular Surface II: Current Issues (4 cr.)** Current issues affecting the ocular surface, including contact lenses, disease, and surgery.

**V707 Clinical Vision Research Techniques Course (1-6 cr.)** Techniques and procedures used to record and quantify ocular function and changes in clinical research including ocular photography, digital imaging, corneal ad retinal topography, confocal microscopy, endothelial microscopy, image processing, surface cell analysis.

**V716 The Visual Pathways (4 cr.)** P: permission of the instructor. For students in the visual sciences, comprehensive study of the human optic pathways.

**V717 Noninvasive Assessment of Visual Function (3 cr.)** Focuses on the clinical application of psychophysical techniques for the detection and diagnosis of visual anomalies and ocular disease.

**V718 Visual Functions in Low Vision (3 cr.)** Studying behavioral aspects of visual function measurements in the low vision population.

**V723 The Eye as an Optical Instrument (4 cr.)** P: V663 or equivalent.

**V754 The Motility of the Eye (4 cr.)** P: V665 or equivalent. Quantitative and qualitative study of eye movements and myologic reflexes, monocular and binocular, and related phenomena.

**V764 Cellular and Molecular Aspects of Ocular Disease and Injury (4 cr.)** Study of selected reports dealing with corneal-wound healing, the cataractous lens, and retinal degenerations.

**V765 Visual Sciences Seminar (1 cr.)** Reports on assigned topics of current interest.

**V767 Electrophysiology of Vision (3 cr.)** Review of techniques of recording neural events, development of a neural hypothesis, experimental testing of hypothesis, writing and presenting of data and conclusions.

**V768 Special Topics in Physiological Optics (1-4 cr.)** Possible topics include comparative studies of the vertebrate eye; heredity in vision, optical, and ophthalmic instruments; current research reports. May be taken more

than once for credit with permission of instructor and with different topics.

**V773 Classics in Physiological Optics (1 cr.)** Study of selected scientific articles of early contributors to our understanding of ocular motility, monocular and binocular functions, the optics of the eye, and ocular physiology.

**V783 Monocular Sensory Aspects of Vision (4 cr.)** P: V664 or equivalent. Analysis of visual stimulus and its perception in color, form, brightness, motion, etc.

**V784 Binocular Sensory Aspects of Vision (4 cr.)** P: V666 or equivalent. A study of perceptual phenomena and responses facilitated by binocular vision.

**V785 The Vertebrate Eye (3 cr.)** Comparative anatomy of the vertebrate retina. Primate retina used as a model. Accommodative mechanisms discussed. Laboratory exercises required.

**V791 Quantitative Methods for Vision Research (3 cr.)** Introduction to communication theory approach to problems in vision. Topics include the sensory nerve code, representation of nerve messages by orthogonal functions, sampling theorem, linear filters, Fourier analysis in one and two dimensions, analysis of directional data, stochastic processes, and signal detection theory.

**V795 Third-Year Research (3 cr.)**

**V799 Master's Degree Research (cr. arr.)**  
**V899 Ph.D. Thesis Research (cr. arr.)**

## Doctor of Optometry Curriculum Courses

**V512 Ocular Anatomy (2 cr.)** P: V511 Human Gross Anatomy, or equivalent. A detailed study of the normal anatomy and embryology of the eye and its adnexa. The organization of various components of the eye is studied at the light and electron microscopic level and this organization is related to the molecular structure where it is known.

**V514 Neuroanatomy (1.5 cr.)** P: V511 Human Gross Anatomy, or equivalent. Functional anatomy of the human brain, with emphasis on the visual system.

**V516 Ocular Physiology (2.5 cr.)** C: V512 or equivalent. Vegetative physiology of the eye, with attention to the chemical constitution, intermediary metabolism, regulation of hydration and intraocular pressure, transparency of the ocular components, and retinal physiology.

**V648 Neurophysiology of Vision (1 cr.)** Introduction to the functional organization of the visual system and the physiological basis of vision. This course treats the visual system as a biological image processor to reveal how the structure and function of the retina and

brain determine visual performance and constrain the quality of vision.

**V663 Physiological Optics I: Visual Optics (3.5 cr.)** P: V522 Geometric Optics II, or equivalent. The eye as an optical instrument.

**V664 Physiological Optics II: Visual Function (2.5 cr.)** The basic aspects of monocular vision, including light and dark adaptation, color vision, and both spatial and temporal resolution. The science of measuring visual performance and its application to clinical optometry.

**V665 Physiological Optics III: Ocular Motility (3.5 cr.)** Characteristics, control, and deficits of the five somatic eye-movement systems (convergence, saccadic version, pursuit version, fixation maintenance, vestibular reflex) and the autonomic systems subserving accommodation and pupillary diameter reflexes.

**V666 Physiological Optics IV: Binocular Function (2.5 cr.)** Binocular sensory mechanisms of vision. Summary of the geometry of three-dimensional space and stereo vision, underlying neuroanatomy and physiology of binocular vision, prerequisites for normal stereopsis, and commonly encountered anomalies of binocular vision.

## Competency Courses

Every student must demonstrate graduate level competency in three of the five areas listed below. The asterisk (\*) denotes Doctor of Optometry curriculum courses.

**Visual Anatomy**

**V512 Ocular Anatomy (2 cr.)\***

**V514 Neuroanatomy (1.5 cr.)\***

**V716 The Visual Pathways (4 cr.)**

**V785 The Vertebrate Eye (3 cr.)**

**Visual Optics**

**V663 Physiological Optics I: Visual Optics (3.5 cr.)\***

**V723 The Eye as an Optical Instrument (4 cr.)**

**Visual Physiology and Biochemistry**

**V516 Ocular Physiology (2.5 cr.)\***

**V648 Neurophysiology of Vision (1 cr.)\***

**V767 Electrophysiology of Vision (3 cr.)**

**Monocular Visual Function**

**V664 Physiological Optics II: Visual Function (2.5 cr.)\***

**V783 Monocular Sensory Aspects of Vision (4 cr.)**

**Ocular Motility**

**V665 Physiological Optics III: Ocular Motility (3.5 cr.)\***

**V666 Physiological Optics IV: Binocular Function (2.5 cr.)\***

**V754 The Motility of the Eye (4 cr.)**

**V784 Binocular Sensory Aspects of Vision (4 cr.)**

## Cross-listed Courses

**Biology**

**L586 Cell Biology (4.5 cr.)**

**Medical Sciences Program**

**A610 Comparative Neuroanatomy (2 cr.)**

**Psychology**

**F553 Advanced Statistics in Psychology I (3 cr.)**

**F554 Advanced Statistics in Psychology II (3 cr.)**

**F564 Psychophysics (3 cr.)**

**F566 Psychophysiology of Vision (3 cr.)**

## West European Studies

**College of Arts and Sciences**

**Bloomington**

**Chairperson** Distinguished Professor Peter Bondanella

**Departmental URL:** <http://www.indiana.edu/~weur>

**Chancellor's Professor** Roy Gardner

**(Economics)**

**Distinguished Professors** Willis Barnstone (Emeritus, Comparative Literature, Spanish and Portuguese), Peter Bondanella (Comparative Literature, French and Italian), Bruce Cole (Fine Arts, Comparative Literature)

**Professors** Peter Boerner (Emeritus,

Comparative Literature, Germanic Studies), Matei Calinescu (Emeritus, Comparative Literature), William Corsaro (Sociology), Allen Douglas, Norman Furniss (Political Science), Harry Geduld (Emeritus, Comparative Literature), Henry Remak (Emeritus, Comparative Literature, Germanic Studies), Darlene Sadlier (Spanish and Portuguese), Tim Tilton (Political Science, Public and Environmental Affairs)

**Associate Professor** David Pace (History)

**Assistant Professor** Carl Ipsen (History)

## Affiliated Graduate Faculty

**Rudy Professors** Albert Valdman (French and Italian, Linguistics), George von Furstenberg (Economics)

**Professors** Robert Agranoff (Public and Environmental Affairs), Michael Berkvam (French and Italian), Maryellen Bieder (Spanish and Portuguese), Patrick Brantlinger (English), Mary Ellen Brown (Folklore), J. Peter Burkholder (Music), Sarah Burns (Fine Arts), Richard Carr (French and Italian), Gilbert Chaitin (Comparative Literature, French and Italian), Lawrence Clopper (English), Claus

While no Ph.D. degree is offered, doctoral students are invited to elect a Ph.D. minor in West European Studies.

**Degree Offered** Master of Arts

### Special Program Requirements

(See also general University Graduate School requirements.)

**Admission** Graduate Record Examination General Test normally required.

### Master of Arts Degree

**Course Requirements** A total of 30 credit hours, consisting of W301, W401, W501, one additional W605 in WEST social sciences courses, one additional W605 in WEST humanities courses, plus 9-12 credit hours of electives and 3-6 credit hours of thesis.

**Language Requirement** Oral/aural knowledge of one approved West European language plus reading knowledge in another European language appropriate to the student's program. The appropriateness of the second language will be determined with approval from the chair of the department.

**Thesis** Required.

**Dual Degree Programs** Dual degree programs will soon be available in cooperation with the School of Library and Information Science and the School of Public and Environmental Affairs. Please contact the department for more information.

### Dual Degree: Master of Arts in West European Studies and Master of Business Administration

The Department of West European Studies and the Kelley School of Business jointly offer a three-year program that qualifies students for two master's degrees. Study for these two degrees can be combined for a total of 65 credit hours rather than the 84 credit hours required for the two degrees taken separately. Students take 24 credits in West European Studies under the course requirements for the M.A. (under the M.A./M.B.A. regulations), including W301, W401, W501 and the in-depth knowledge of one West European language; and 40.5 credit hours for the M.B.A. degree under the course requirements for the M.A./M.B.A., including The Foundations and the Functional Core through the MBA program, L506, G509, and The Policy Component. A student must make application to and be accepted by the Kelley School of Business for study toward the Master of Business Administration (M.B.A.) and by the Department of West European Studies and the Graduate School for study toward the Master

international issues, including the welfare states, the European community, and West-East European relations.

**W401 Topics in European Intellectual History (3 cr.)** A survey of modern European intellectual history from the French Revolution to the present. Open to advanced undergraduate and graduate students.

**W405 Special Topics in West European Studies: Social Sciences (3 cr.; 12 cr. max.)**  
**W406 Special Topics in West European Studies: Humanities (3 cr.; 12 cr. max.)**

**W501 The Economics of European Integration (3 cr.)** Study of the integration of the economies of the member states of the European Union (EU) since the Treaty of Rome; economic policy-making institutions and the EU budget; economic theory of a customs union and a single market; imperfections in the single market, including unemployment; monetary integration and monetary union; common policies and reforms; widening of the EU to the east and south; and emphasis on relevant current events.

**W504 Model European Union (1-3 cr.)** Analysis of the decision-making powers of the European Union (EU). Formal simulation of the EU. Course may be repeated for credit.

**W602 International Briefing (1.5 cr.)** Covers three large regions: East Asia, Russia and Eastern Europe, and Western Europe. Taught by three specialists in politics, culture, and societies.

**W605 Selected Topics in West European Studies (1.5-4 cr.; 12 cr. max.)**

**W800 M.A. Thesis (cr. arr.)\***  
**W805 Individual Readings in West European Studies (1-8 cr.)**

**W875 Research in West European Studies (cr. arr.)**

### Modern Greek Courses

**E491 Elementary Modern Greek for Graduate Students (3 cr.)** For graduate reading knowledge. Credit will not count toward degree.

**E492 Readings in Modern Greek for Graduate Students (3 cr.)** P: E491 or equivalent. Continuation of first semester.

**E200 Second-Year Modern Greek (3 cr.)**

Students enrolling must have either taken E491 or placement examination. Course will build on language skills acquired during first semester. This will involve covering more advanced grammar, vocabulary, and developing writing skills. Emphasis placed on verbal expression. For graduate reading knowledge. Credit will not count toward degree.

of Arts degree. The student must select a Thesis Advisory Committee of at least three faculty members representing both WEST and the Kelley School of Business. It is strongly advised that the student spend the first of the three-year program completing requirements for the M.A. (WEST) part of the program, and that the second year be spent in the first year of the M.B.A. program, thus allowing the third year to focus on electives and the thesis. The Area Studies programs (EALC, REEL, WEST) require 30 hours of credit, 6 of which taken in the Kelley School of Business will count towards the M.A. degree. The other 24 hours of credit must be in accordance with the respective area studies program.

### Area Certificate in West European Studies

Area certificates can be awarded only in conjunction with a degree program and cannot be awarded prior to the completion of all requirements for the degree.

**Course Requirements** A total of 30 credit hours, consisting of W301, W401, W501, three additional WEST courses divided between humanities and social sciences courses, plus 12 credit hours of electives that are WEST or cross-listed courses.

**Language Requirement** Oral/aural knowledge of one approved West European language plus reading knowledge in another European language appropriate to the student's program. The appropriateness of the second language will be determined with the approval of the chair of the department.

### Ph.D. Minor in West European Studies

**Course Requirements** Twelve (12) credit hours of courses carrying graduate credit. These should include W301-W401 (a waiver for either or both may be obtained from the chairperson), at least one W605 seminar, and at least one other W605 seminar or cross-listed equivalent. Waivers do not count toward meeting the 12 credit hour requirement. No more than 3 of the 12 credit hours may be in readings (W805) or independent research (W875).

**Language Requirement** Reading competence in at least one of the approved continental West European languages.

### Courses

#### W301 Modern European Politics and Society

(3 cr.) The politics, economics, and social structures of Western European countries. Examination of selected domestic and

## Women's Studies

### INDIANAPOLIS PROGRAM

Departmental e-mail: [wostudy@iupui.edu](mailto:wostudy@iupui.edu)

Departmental URL: <http://www.iupui.edu/~wostudy>

### Graduate Faculty

**Professors** Gabrielle Bersier (German), Barbara Cambridge (English), Ulla Connor (English), Anne Donchin (Philosophy), Linda Haas (Sociology), Missy Kubischek (English), Miriam Langsam\* (Liberal Arts), Phyllis Stern (School of Nursing), Susan Sutton (Anthropology)

**Associate Professors** Dennis Bingham, (English), Paul Carlin (Economics), Jeanette Dickerson-Putman (Anthropology), Catherine Dobris\* (Communication Studies), Carol Gardner (Sociology), Susanmarie Harrington\* (English), Barbara Jackson (Anthropology), Karen Johnson\* (English), Nancy Newton (Spanish), Ursula Niklas (Philosophy), Obinaemeka Nnaemeka (Women's Studies/French), Susan Shepherd\* (English), Catherine Souch (Geography), Robert Sutton\* (Classical Studies), Patricia Wittberg (Sociology), Marianne Wocek\* (History)

**Assistant Professors** Peg Brand\* (Philosophy), Jane Schultz (English)

**Graduate Advisor** Women's Studies, Cavanaugh Hall, Room 001C, Indianapolis, IN 46202-5140, (317) 274-7611.

Women's Studies brings together faculty, women and some men, interested in women's issues in teachings, research and service. Interdisciplinary in nature, WOST explores a wide range of issues as seen through the perspective of gender. Women's Studies can help shape a vision of women's position in society that will enable students to make a more meaningful contribution wherever their career paths and future engagements may lead. A degree in women's studies should enhance a student's effectiveness in virtually any career.

For careers in law or social service: WOST gives insight into social practices that oppress women, such as rape, abuse and job discrimination. For careers in biology, medicine, nursing or other allied health professions: WOST offers an understanding of women's health needs. For business careers: WOST teaches students to understand the barriers and the opportunities for women seeking careers in the corporate world.

Requirements for the Graduate Minor: a total of 12 credit hours.

## Courses

### Basic Courses

Students must choose one of the following:

**W601 Survey of Contemporary Research in Women's Studies: The Social and Behavioral Sciences (3 credits)** An exploration of feminist perspectives in the social sciences. Theoretical frameworks and research styles are examined, as are feminist critiques of traditional social scientific frameworks and research methods.

**W602 Contemporary Research in Women's Studies: The Humanities (3 credits)** Review of literature on sex roles, psychology of women, socialization and politicization of women.

Training in methodology of research on women; critique of prevailing and feminist theoretical frameworks for studying women.

### Collateral Study

Students must choose one:

**W500 Feminist Theory (3 credits)** An examination of contemporary feminist analyses of gender relations, how they are constituted and experienced and how social structures maintaining sexist hierarchies intersect with hierarchies of race, class, and ethnicity.

**W601 Survey of Contemporary Research in Women's Studies The Social and Behavioral Sciences (3 credits)** An exploration of feminist perspectives in the social sciences. Theoretical frameworks and research styles are examined, as are feminist critiques of traditional social scientific frameworks and research methods.

**W602 Contemporary Research in Women's Studies: The Humanities (3 credits)** Review of literature on sex roles, psychology of women, socialization and politicization of women. Training in methodology of research on women; critique of prevailing and feminist theoretical frameworks for studying women.

**W695 Graduate Readings and Research in Women's Studies (3-6 credits)** An opportunity for graduate students in various programs at IUPUI to explore specific issues within the field of Women's Studies, guided by faculty with particular expertise in these areas.

**W701 Graduate Topics in Women's Studies (3-4 credits)** Advanced investigation of selected research topics in women's studies. Topics to be announced.

### Electives

Six additional credits are to be earned by taking any combination of courses chosen from the above course offerings and / or the list of courses that have been approved and are cross-listed under the Women's Studies Graduate Minor Program.

## Graduate Faculty

The names of all members of the Graduate Faculty who hold appointments in graduate degree-granting units of Indiana University are listed with the respective unit entries. (Asterisks following names designate associate status.) Other members of the Graduate Faculty are listed below by category.

### Full Members

ALAM, MOHAMMAD, Assistant Professor of Electrical Engineering

ALVIS, DEAN, Associate Professor of Mathematics

AMBA-RAO, SITA, (Emerita) Professor of Management

ANDERSON, ALLEN, Associate Professor of Criminal Justice and Assistant Dean, Division of Public and Environmental Affairs

ANDERSON, WILLIAM J., Professor of Anatomy

APONTE, ROBERT, Associate Professor of Sociology

ARSHANPALLI, BALA, Professor of Finance

ASHTON, PATRICK, Associate Professor of Sociology

BAILEY, JOHN, Clinical Professor of Medicine

BALDWIN, WILLIAM W., Professor of Microbiology and Immunology

BANKSTON, PATRICK, Professor of Anatomy and Pathology

BARR, ALAN P., Professor of English

BARRY, JAMES, Jr., Professor of Philosophy

BARTON, PAUL, Professor Emeritus of Community Dentistry and of Journalism

BAYER, SHIRLEY, Professor of Biology and Adjunct Professor of Neurobiology

BEINKE, LOWELL E., J. W. Schrey Professor of Mathematics

BENDER, EILEEN, Professor of English

BENSON, MERRILL, Professor of Medicine and of Medical and Molecular Genetics

BERSIER, GABRIELLE, Professor of German and Adjunct Professor of Women's Studies

BHATTIA, SHAM, Professor of Economics

BHATTACHARYA, PRADEEP, Professor of Biology

BLAKE, JOSEPH, Associate Professor of Sociology

BLANEY, DORIS, Professor Emerita of Nursing

BLOMQUIST, WILLIAM A., Associate Professor of Political Science

BODMER, GEORGE, Professor of English

BOGDIEWIC, STEPHEN, Associate Professor of Family Medicine (and SPEA; P-T)

BOND, GARY R., Professor of Psychology and Adjunct Professor of Nursing

BRINGLE, ROBERT G., Professor of Psychology and Adjunct Professor of Philanthropic Studies

BROWN, JAMES W., Professor of Journalism and Adjunct Professor of Communication and Theatre

BROXMEYER, HAL, Professor of Medicine and of Microbiology and Immunology

BUCKLEY, WILLIAM, Professor of English

BUHNER, JOHN, Professor Emeritus of Public and Environmental Affairs

BURKINSHAW, OWEN, Professor of Mathematics

BUSHNELL, PETER, Assistant Professor of Biology

CARDUCCI, BERNARDO J., Professor of Psychology

CHARY, FREDERICK, Professor of History

CHERNOFF, ELLEN, Associate Professor of Biology

CHERRY, CHARLES C., Distinguished Professor of Religious Studies and Adjunct Professor of American Studies

CHESNUT, GLENN, Professor of History

CHOWDHURY, DIPAK, Professor of Geology

COHEN, RONALD, Professor of History

COOPER, WILLIAM E., Professor of Biology

COUFODAKIS-PETROUSSIS, E., Professor of Political Science

COX, DEAN, Associate Professor of Marketing

DARNEL, MICHAEL R., Professor of Mathematics

DAVIS, THOMAS J., Associate Professor of Religious Studies

DE LEON, NELSON, Associate Professor of Chemistry

DEMAREE, ROBERT W., Jr., Professor of Music

DeMYER, MARIAN K., (Emerita) Professor of Neurology

DICK, ROBERT, Professor of Communication and Theatre

DOLPH, GARY, Professor of Botany

DONNELLY, ELEANOR L., Associate Professor of Nursing and of Semiotic Studies and Adjunct Associate Professor of Anthropology

DUBIN, PAUL L., Professor of Chemistry

DUFF, DOUGLAS, (Emeritus) Professor of Biology

DYKSTRA, CLIFFORD, Professor of Chemistry

DZIARSKI, ROMAN, Professor of Microbiology and Immunology

EAST, JAMES, Professor Emeritus of Communication and Theatre

ECHTENKAMP, STEPHEN F., Associate Professor of Physiology and Biophysics

EVENBECK, SCOTT, Associate Professor of Psychology

FARLOW, JAMES, Professor of Geology

FETTERMAN, JOHN G., Professor of Psychology

FIFE, WILMER, Professor of Chemistry

FINDLING, JOHN E., Professor of History

FINEBERG, NAOMIS., Professor of Medicine

FINKEL, DEBORAH, Professor of Psychology

FORD, DAVID A., Professor of Sociology

FREDLAND, RICHARD, Professor of Political Science

FRENCH, WARREN, Professor Emeritus of English

FRITSCHNER, LINDA, Professor of Sociology

FROBE, DORIS, (Emerita) Professor of Nursing and of Public and Environmental Affairs

FUGMAN, DOUGLAS, Assistant Scientist in Medical and Molecular Genetics

FURLONG, PATRICK, Professor of History and Director of Master of Liberal Studies Program

GARDNER, CAROL B., Associate Professor of Sociology and Adjunct Assistant Professor of Women's Studies

GOERING, ELIZABETH, Associate Professor of Communication Studies

GOODLETT, CHARLES, Professor of Psychology

GRONFEIN, WILLIAM P., Associate Professor of Sociology

HAAS, AIN E., Associate Professor of Sociology

HAAS, LINDA LEE, Professor of Sociology and Adjunct Professor of Women's Studies

HENDRIE, HUGH CURTIS, Albert Eugene Sterne Professor of Clinical Psychiatry

HILL, EMITA B., (Emerita) Professor of Romance Languages

HOFTZGER, VIRGIL, Professor of Anatomy

HOLMQUIST, EMILY, Professor Emerita of Nursing

HOUSEMAN, GERALD, (Emeritus) Professor of Political Science

HOYT, GILES, Professor of German

HUI, SIU L., Professor of Medicine and Adjunct Professor of Psychiatry

HWANG, BANG, Associate Professor of Anatomy

IADICOLA, PETER, Professor of Sociology

IATRIDIS, PANAYOTIS, (Emeritus) Professor of Physiology and Biophysics and of Medicine

JACKSON, WILLIAM J., Professor of Religious Studies

JENKS, RICHARD, Professor of Sociology

JENSKI, LAURA J., Professor of Biology

JOHNSTON, BARRANCE V., Professor of Sociology

JONES, EARL, Associate Professor of Afro-American Studies and Associate Professor of Public and Environmental Affairs

KAMEN, JOSEPH M., (Emeritus) Professor of Marketing

KAMINKER, JEROME, Professor of Mathematics

KASEM, KASEM, Associate Professor of Chemistry

KATZ, BARRY P., Professor of Medicine and Professor of Preventive Dentistry

KEEN, MIKE, Associate Professor of Sociology

KELLER, JOSEPH, Professor Emeritus of English

KEMPLE, MARVIN, Professor of Physics

KENNEDY, BRIAN GERARD, Associate Professor of Physiology and Biophysics

KINYON, MICHAEL, Associate Professor of Mathematics

KLAMEN, DAVID, Professor of Fine Arts

KLEINHANS, FREDERICK, Associate Professor of Physics and Adjunct Associate Professor of Geology

KNOWLES, BREND A., Professor of Business

KOCHANOWSKI, PAUL, Professor of Economics

KOFAS, JON, Professor of History

KREMER, JOHN F., Professor of Psychology

LAFUZE, JOAN E., Professor of Biology and Research Associate in Pediatrics

LEE, MONLE, Professor of Marketing

LIJELL, JOHN, Professor Emeritus of Sociology

LIPKOWITZ, KENNETH, Professor of Chemistry

LUTZ, JAMES M., Professor of Political Science

MALIK, DAVID, Professor of Chemistry

MANN, SUSAN GARLAND, Associate Professor of Education

MARCH, KEITH, Associate Professor of Medicine

MARFURT, CARL, Professor of Anatomy

MASON, GLENN, Professor of Geography

McCORMICK, JOHN, Associate Professor of Political Science

McGEEVER, PATRICK, Professor of Political Science and Adjunct Professor of American Studies

McGOVERN, LIGAYA, Associate Professor of Sociology

McINTOSH, JOHN L., Professor of Psychology

McNEAL, PATRICIA, Professor of Women's Studies

MEHRAN, JAMSHID, Professor of Finance

MENA, LUCILIA, Associate Professor of Spanish

MERKEL, GLENN J., Associate Professor of Microbiology and Immunology

MISZTAL, BRONISLAW, Professor of Sociology

MOLLER, DAVID W., Associate Professor of Sociology

MORRIS, BARNETT, Professor Emeritus of Psychology

MURPHY, JAMES, Professor of Psychology

NAFFZIGER, FREDERICK J., Professor of Business Law

NEEL, ROBERT, Professor Emeritus of Psychology

NEWCOMB, PAUL, Associate Professor of Social Work

NG, BART, Professor of Mathematics

NICOL, GRANT, Professor of Pharmacology and Toxicology

NNAEMEKA, OBIOMA, Associate Professor of French, Associate Professor of Women's Studies, and Adjunct Associate Professor of Afro-American Studies

NUROK, DAVID, Associate Professor of Chemistry

NUSBAUMER, MICHAEL R., Professor of Sociology

O'DONNELL, MARTIN J., Professor of Chemistry

OLSON, DANIEL V.A., Associate Professor of Sociology

OTTENSMANN, JOHN, Adjunct Professor of Geography and Professor of Public and Environmental Affairs

OWENS, TIMOTHY, Associate Professor of Sociology

PAPKE, DAVID R., R. Bruce Townsend Professor of Law, Adjunct Professor of American Studies

PEARLSTEIN, ROBERT, Professor of Physics

PETERSEN, BRUCE, Adjunct Assistant Professor of Biology

PIPPERT, RAYMOND, Professor of Mathematics

RAJECKI, DONALD W., Professor of Psychology

RAND, LEON, (Emeritus) Professor of Chemistry

RAO B. D. NAGESWARA, Professor of Physics

RASMUSSEN, JEFFREY L., Associate Professor of Psychology

REIBERG, RUFUS, Professor Emeritus of English

RICKARD, KARYL, Professor of Nutrition and Dietetics

ROSS, JOHN, Associate Professor of Information Systems

ROYER, ARIELA, Associate Professor of Sociology

RUDY, JOHN, Professor of English

SABBAGHI, ASGHAR, Professor of Management Sciences and Information Systems

SACHS, STEPHEN, Professor of Political Science

SANDSTROM, ALAN, Professor of Anthropology

SAYEGH, SAMIR I., Associate Professor of Physics

SAYWELL, ROBERT M., Jr., Professor of Family Medicine, Adjunct Professor of Nursing

SCANLAN, MARGARET T., Professor of English

SCHANSBERG, D. Eric, Associate Professor of Economics

SCHNIUR, PAUL, Professor of Psychology

SCHULTZ, FRANKLIN, Professor of Chemistry

SERNAU, SCOTT R., Associate Professor of Sociology

SHANKS-MEILE, STEPHANIE, Professor of Sociology

SHELDON, MARK, Professor of Philosophy

SHERMIS, MARK D., Associate Professor of Psychology and Adjunct Associate Professor of Education

SHERRILL, ROWLAND, Professor of Religious Studies and Adjunct Professor of American Studies

SHORE, STEVEN, Professor of Physics

SHUPE, ANSON, Professor of Sociology

SINGER, LESLIE, Professor Emeritus of Economics

SIVAM, SUBBIAH P., Professor of Pharmacology and Toxicology

SONG, YU, Associate Professor of Mathematics

SOTHMANN, MARK, Professor of Allied Health Sciences

STATEN, CLIFFORD, Associate Professor of Political Science

STEINMETZ, SUZANNE K., Professor of Sociology

STILLWELL, WILLIAM H., Professor of Biology



STOCUM, DAVID L., Professor of Biology		
STRUPECK, C. DAVID, Associate Professor of Business		
SUZUKI, DAVID A., Associate Professor of Ophthalmology		
SVANUM, SOREN, Associate Professor of Psychology and Adjunct Associate Professor of Clinical Psychology		
SWARTZ, DARL, Associate Professor of Anatomy		
TAYLOR, DAVID W., Professor of Biology		
THACKERAY, FRANK, Professor of History		
TROUT, ANDREW P., Jr., (Emeritus) Professor of History		
TSAL, WEN-HUI, Professor of Sociology		
TURK, ELEANOR, Professor of History		
TWIGG, HOMER, Associate Professor of Medicine		
TZENG, OLIVER C. S., Professor of Psychology and Adjunct Professor of Nursing		
VANDEN BERGE, JAMES, (Emeritus) Professor of Anatomy		
VARGUS, BRIAN, Professor of Sociology, Adjunct Professor of Political Science, and Adjunct Professor of Communication and Theatre		
VASAVADA, KASHYAP, Professor of Physics		
VEEDER, MARY, Professor of English		
VILENSKY, JOEL A., Professor of Anatomy		
VINODGOPAL, KIZHANIPURAM, Professor of Chemistry		
VON DER EMBSE, THOMAS J., Professor of Business		
WARE, J. ROGER, Associate Professor of Psychology		
WASHBURN, MICHAEL, Professor of Philosophy		
WASSALL, STEPHEN, Associate Professor of Physics		
WHITCHURCH, GAIL, Associate Professor of Communication Studies		
WHITE-MILLS, KIM, Associate Professor of Communication Studies		
WILLIAMS, COLIN, Professor of Sociology		
WILLIAMS, LYNN R., Professor of Mathematics		
WILLIAMSON-ICE, DOROTHY, Associate Professor of Communications		
WOLF, THOMAS, (Emeritus) Professor of Political Science		
WOLLONS, ROBERTA, Associate Professor of History		
WYSONG, EARL, Professor of Sociology		
YOVITS, MARSHALL, (Emeritus) Professor of Computer and Information Science		
ZELDIN, MARTEL, Professor of Chemistry		
CRAWFORD, HOLLY, Assistant Professor of Library and Information Sciences		
CROWELL, PAMELA, Associate Professor of Biology		
CULLEN, DEBORAH, Professor of Respiratory Therapy		
CURTIS, RICHARD, (Emeritus) Professor of Communication and Theatre		
DAHLGREN, DONNA, Associate Professor of Psychology		
DALPHIN, JOHN, Professor of Computer Science		
DHAWALE, SHRIKRISHNA W., Professor of Chemistry		
DOBRIS, CATHERINE, Associate Professor of Communication and Theatre		
DRUMMOND, CARL, Associate Professor of Geology		
DUFRENE, URIC, Associate Professor of Business Administration		
DUNLOP, STEPHEN R., Clinical Associate Professor of Psychiatry		
DUNN, MILLARD, Professor of English		
DYNLACHT, JOSEPH R., Assistant Professor of Radiation Oncology		
EDMONDS, KENT, Assistant Professor of Biology		
ELMORE, GARLAND, Associate Professor of Communication and Theatre		
ERNST, JUDITH A., Associate Professor of Nutrition and Dietetics		
ERNSTBERGER, KATHYRN, Associate Professor of Business Administration		
ESELSTROM, MICHAEL, Professor of Music		
FARLOW, MARTIN, Adjunct Professor of Psychiatry and Professor of Neurology		
FARNSELY, ARTHUR, Assistant Dean of the Graduate School		
FASTENAU, PHILIP, Assistant Professor of Psychology		
FELTON, MARIANNE, Professor Emeritus of Economics		
FISCHER, BERND, Professor of History		
FISHER, TIMOTHY, Associate Professor of Geosciences and Adjunct Associate Professor of Geology		
FOOS, K. MICHAEL, Professor of Biology		
FORINASH, KYLE, Professor of Physics		
FRENCH, GEORGE, Associate Professor of Business Administration		
FRENCH, SANDRA, Professor of Sociology		
FRICKE, GORDON H., Associate Professor of Chemistry		
GABLE, KAREN, Associate Professor of Allied Health Sciences and Adjunct Associate Professor of Education		
GALVIN, PETER, Associate Professor of Geography		
GAO, SUJUAN, Assistant Professor of Medicine		
GERENCSEK, STEVEN, Assistant Professor of Political Science		
GOLDSTEIN, JOANNA, Professor of Music		
GOODMAN, NEIL, Professor of Fine Arts		
GRECKEL, FAY R., (Emerita), Professor of Economics		
GRENS, ANN, Assistant Professor of Developmental Biology		
GUENTHER, JOHN, Professor of Fine Arts		
GUGIN, LINDA, Professor of Political Science		
HAW, JAMES, Professor of History		
HAZER, JOHN T., Associate Professor of Psychology		
HERON, RANDALL, Assistant Professor of Accounting		
HOJNACKI, WILLIAM P., Professor of Public and Environmental Affairs		
HOWARD, JAY R., Associate Professor of Sociology		
HUDSON, NORMAN, Assistant Professor of Biochemistry and Molecular Biology		
HUITINK, GERALDINE, Professor of Chemistry		
HUNT, RANDY E., Assistant Professor of Biology		
HURLEY-WILSON, BARBARA A., Associate Professor of Nursing		
IRWIN, ARCHIBALD, (Emeritus) Professor of English		
ISIORHO, SOLOMON, Associate Professor of Geography		
JACKSON, BARBARA, Associate Professor of Anthropology and Adjunct Associate Professor of Women's Studies		
KAUFFMAN, JAMES, Associate Professor of Speech Communication		
KERN, GARY, Assistant Professor of Management Sciences and Information Systems		
KINGSBURY, BRUCE, Assistant Professor of Biology		
KINGSLEY, ROBERT, Associate Professor of Physiology and Biophysics		
KIRCHNER, GRETCHEN, Associate Professor of Biology		
KOMENICH, ANGELINE, Professor Emerita of Spanish		
KRISHNA, VIJAY, Associate Professor of Speech Communication		
LANG, WILLIAM, Associate Professor of Mathematics		
LAUER, JOAN, Associate Professor of Psychology		
LIECHTY, EDWARD A., Professor of Pediatrics		
ALDRICH, CARLA, Associate Professor of Microbiology and Immunology		
ALLEN, RUTH, Assistant Professor of Biology		
ALSE, JANARDHANAN, Associate Professor of Economics		
AMBROSIUS, WALTER, Assistant Professor of Medicine		
ANTON, MARTA, Associate Professor of Spanish and Portuguese		
ARDEMAGNI, ENRICA J., Associate Professor of Spanish		
ASARE, BENJAMIN, Associate Professor of Sociology		
ATNIP, GILBERT, Professor of Psychology		
BAHAMONDE, RAFAEL, Assistant Professor of Physical Education		
BAKER, CRUMP, Professor of Mathematics		
BARNEY, DOUGLAS, Associate Professor of Business Administration		
BARTON, DAVID K., Professor of Music		
BARTON-KRIESE, PAUL, Associate Professor of Political Science		
BELL, JOHN P., (Emeritus) Associate Professor of History		
BERTRAND, DIDIER, Associate Professor of French		
BJORK, ULFJONAS, Associate Professor of Journalism		
BJORNSSON, CHRISTIAN, Associate Professor of Business Administration		
BLOOM, JACK M., Associate Professor of Sociology		
BLUMENSHINE, GARY, Associate Professor of History		
BLUMENTHAL, ELLIOTT, Assistant Professor of Biology		
BORDEN, VICTOR, Associate Professor of Psychology		
BOSCHMANN, ERWIN, Professor of Chemistry		
BOWER, STEPHANIE, Professor of History		
BRADY, MARY SUE, Professor of Nutrition and Dietetics		
BRANT, HERBERT, Associate Professor of Spanish		
BYERS, KATHARINE V., Associate Professor of Social Work		
CANTOR, LOUIS, Professor of History		
CAROW, KENNETH, Assistant Professor of Finance		
CAUCCI, FRANK, Assistant Professor of French		
CORTWRIGHT, SPENCER, Associate Professor of Biology		

LONG, ERIC C., Associate Professor of Chemistry

LOWE, MARC J., Assistant Professor of Radiology

LUCAL, BETSY, Assistant Professor of Sociology

MACKINNON, JOYCE, Professor of Allied Health Science

MANATUNGA, AMITA K., Assistant Professor of Medicine

MARTI, DONALD, Associate Professor of History

MAWHINNEY, V. THOMAS, Associate Professor of Psychology

McGREW, JOHN H., Associate Professor of Psychology

McGUIRE, GAIL M., Assistant Professor of Sociology

MEHRA, ROMESH, Professor of Biology

MENDONCA, MARC, Assistant Professor of Radiation Oncology

MILSTEIN, VICTOR, Professor of Clinical Psychology in Psychiatry

MORGAN, ROBIN, Professor of Psychology

NASSIM, BAHMAN, Professor of Chemistry

NAYLOR, ANDREW E., Professor of Philosophy

NEWMAN, JOHN, Professor of Sociology

NEWTON, NANCY A., Associate Professor of Spanish and Adjunct Associate Professor of Women's Studies

O'PALKA, JACQUELYNN, Clinical Professor of Nutrition and Dietetics

OSBORNE, RANDALL, Associate Professor of Psychology

OTU, EMMANUEL, Assistant Professor of Chemistry

OUKADA, LARBI, Associate Professor of French and Adjunct Associate Professor of Education

PELLICCIONI, JOSEPH, Professor of Public and Environmental Affairs

PERRY, DOUGLAS G., Associate Professor of Medicine and Associate Professor of Respiratory Therapy

QUATE, SHIRLEY, Adjunct Associate Professor of English and Associate Professor of Journalism

QUILLEN, WILLIAM, Associate Professor of Physical Therapy

QUINET, KENNA, Associate Professor of Public and Environmental Affairs

RICHARDS, BEVERLY, Associate Professor of Nursing and Adjunct Associate Professor of Psychiatry

RODEN, DIANNE, Associate Professor of Finance

RYTTING, MARVIN B., Associate Professor of Psychology

SABINE, NEIL, Associate Professor of Biology

SAKELLARIDIS, NIKOS N., Clinical Assistant Professor of Pharmacology and Toxicology and Neurology

SCHNABEL, ANDREW, Assistant Professor of Biology

SCHRADER, STUART, Assistant Professor of Communication Studies

SCHREIBER, ROY E., Professor of History

SCOTT, CLIFFORD, Associate Professor of History

SEGAL, MARCIA, Professor of Sociology

SEN, STEPHANIE E., Associate Professor of Chemistry

SHEFFER, RICHARD D., Associate Professor of Biology

SHI, DYLAN, Associate Professor of Mathematics

SHLAPENTOKH, DMITRY, Associate Professor of History

SLEDGE, GEORGE W., Jr., Professor of Pathology and Laboratory Medicine and Balve Lantero Professor of Oncology

SLOSS, G. SAM, Associate Professor of Sociology

ST. CLAIR, JAMES, Associate Professor of Journalism

STABLER, TIMOTHY, Adjunct Associate Professor of Physiology and Biophysics and Associate Professor of Biology

STANTON, KATHLEEN, Assistant Professor of Physical Education

SUNDERMAN, JACK, Associate Professor of Geology

SUTTON, ROBERT F., Jr., Associate Professor of Classical Studies

SWEIGART, WILLIAM, Associate Professor of English

SZARKOWICZ, DONALD, Associate Professor of Data Processing and Information Systems

TORSTRICK, REBECCA L., Assistant Professor of Sociology

TULL, CHARLES J., Professor Emeritus of History

TURNIPSEED, DAVID L., Jr., Associate Professor of Business

UDRY, EILEEN, Assistant Professor of Physical Education

VAN SCODER, LINDA, Associate Professor of Respiratory Therapy

VERAMALLAY, ASHTON, Professor of Economics

VERMETTE, ROSALIE A., Professor of French and Adjunct Professor of Women's Studies

WILKERSON, SHARON, Associate Professor of Nursing

WILLE, DIANE E., Professor of Psychology

WOEPPEL, JAMES J., Professor of Mathematics

WOJCIECHOWSKI, KRZYYSZTOF, Professor of Mathematics

WYANDOTTE, ANNETTE, Associate Professor of English

ZHOU, XIAO-HUA (Andrew), Associate Professor of Medicine

ZOPPI, KATHLEEN, Assistant Scientist/ Assistant Professor of Family Medicine

VIOLETTE, AURELE, Associate Professor of History

WADSWORTH, FRANK, Assistant Professor of Business Administration

WALLIHAN, JAMES, Professor of Labor Studies and Professor of Political Science

WALLIS, VICTOR E., Associate Professor of Political Science and Adjunct Associate Professor of Women's Studies

WEBB, DOROTHY L., Professor of Communication and Theatre

WEBB, J. EDGAR, (Emeritus) Professor of Communication and Theatre

WHEAT, JERRY, Professor of Business Administration

WIGGINS, GARY, Librarian, University Libraries

# Indiana University

When you become a student at Indiana University, you join an academic community internationally known for the excellence and diversity of its programs. With 1,013 degree programs, the university attracts students from all 50 states and around the world. The full-time faculty numbers more than 4,000 and includes members of many academic societies such as the American Academy of Arts and Sciences, the American Philosophical Society, and the National Academy of Sciences.

Indiana University was founded at Bloomington in 1820 and is one of the oldest and largest institutions of higher education in the Midwest. It serves 92,000 students on eight campuses. The residential campus at Bloomington and the urban center at Indianapolis form the core of the university. Campuses in Gary, Fort Wayne, Kokomo, New Albany, Richmond, and South Bend join Bloomington and Indianapolis in bringing an education of high quality within reach of all of Indiana's citizens.

## General Policies

### Equal Opportunity/Affirmative Action Policy of Indiana University

Indiana University pledges itself to continue its commitment to the achievement of equal opportunity within the university and throughout American society as a whole. In this regard, Indiana University will recruit, hire, promote, educate, and provide services to persons based upon their individual qualifications. Indiana University prohibits discrimination based on arbitrary consideration of such characteristics as age, color, disability, ethnicity, gender, marital status, national origin, race, religion, sexual orientation, or veteran status.

Indiana University shall take affirmative action, positive and extraordinary, to overcome the discriminatory effects of traditional policies and procedures with regard to the disabled, minorities, women, and Vietnam-era veterans.

An Affirmative Action office on each campus monitors the university's policies and assists individuals who have questions or problems related to discrimination.

### Special Assistance

For people who have disabilities and need special assistance, special arrangements can be made to accommodate most needs. In Bloomington, contact Disabled Student Services at (812) 855-7578; at IUPUI, contact Adaptive Educational Services at (317) 274-3241.

**Confidentiality of Student Records**  
In accordance with federal statutes and regulations, student records are confidential and available for disclosure to persons other than the student only under stated conditions.

**Student Rights and Responsibilities**  
A statement of students' rights and responsibilities is published in a handbook, *Code of Student Rights, Responsibilities, and Conduct*, which contains a description of due process hearings in the event of disciplinary action.

**Degree Requirements** Students are responsible for understanding all requirements for graduation and for completing them by the time they expect to graduate. Information about a specific school or division can be found in the front section of the bulletin for that school.

*Requests for deviation* from department, program, or school requirements may be granted only by written approval from the respective chairperson, director, or dean (or a designated administrative representative). Disposition at each level is final.

## Rules Determining Resident and Nonresident Student Status for Indiana University Fee Purposes

These Rules establish the policy under which students shall be classified as residents or nonresidents upon all campuses of Indiana University for University fee purposes. Nonresident students shall pay a nonresident fee in addition to fees paid by a resident student.

These Rules shall take effect February 1, 1974; provided, that no person properly classified as a resident student before February 1, 1974, shall be adversely affected by this Rule, if he or she attended the University before that date and while he or she remains continuously enrolled in the University.

1. "Residence" as the term, or any of its variations (e.g., "resided"), as used in the context of these Rules, means the place where an individual has his or her permanent home, at which he or she remains when not called elsewhere for labor, studies, or other special or temporary purposes, and to which he or she returns in seasons of repose. It is the place a person has voluntarily fixed as a permanent habitation for himself or herself with an intent to remain in such

place for an indefinite period. A person at any one time has but one residence, and a residence cannot be lost until another is gained.

- (a) A person entering the state from another state or country does not at that time acquire residence for the purpose of these Rules, but except as provided in Rule 2(c)<sup>1</sup>, such person must be a resident for 12 months in order to qualify as a resident student for fee purposes.

- (b) Physical presence in Indiana for the predominant purpose of attending a college, university, or other institution of higher education, shall not be counted in determining the 12-month period of residence; nor shall absence from Indiana for such purpose deprive a person of resident student status.

2. A person shall be classified as a "resident student" if he or she has continuously resided in Indiana for at least 12 consecutive months immediately preceding the first scheduled day of classes of the semester or other session in which the individual registers in the University, subject to the exception in (c)<sup>1</sup> below.

- (a) The residence of an unemancipated person under 21 years of age follows that of the parents or of a legal guardian who has actual custody of such person or administers the property of such person. In the case of divorce or separation, if either parent meets the residence requirements, such person will be considered a resident.<sup>2</sup>

- (b) If such person comes from another state or country for the predominant purpose of attending the University, he or she shall not be admitted to resident student status upon the basis of the residence of a guardian in fact, except upon appeal to the Standing Committee on Residence in each case.<sup>1</sup>

- (c) Such person may be classified as a resident student without meeting the 12-month residence requirement within Indiana if his or her presence in Indiana results from the establishment by his or her parents of their residence within the state and if he or she proves that the move was predominantly for reasons other than to enable such person to become entitled to the status of "resident student."<sup>1</sup>

- (d) When it shall appear that the parents of a person properly classified as a "resident student" under subparagraph (c) above have removed

their residence from Indiana, such person shall then be reclassified to the status of nonresident; provided, that no such reclassification shall be effective until the beginning of a semester next following such removal.

- (e) A person once properly classified as a resident student shall be deemed to remain a resident student so long as remaining continuously enrolled in the University until such person's degree shall have been earned, subject to the provisions of subparagraph (d) above.

3. The foreign citizenship of a person shall not be a factor in determining resident student status if such person has legal capacity to remain permanently in the United States.

4. A person classified as a nonresident student may show that he or she is exempt from paying the nonresident fee by clear and convincing evidence that he or she has been a resident (see Rule 1 above) of Indiana for the 12 months prior to the first scheduled day of classes of the semester in which his or her fee status is to be changed. Such a student will be allowed to present his or her evidence only after the expiration of 12 months from the Residence Qualifying Date, i.e., the date upon which the student commenced the 12-month period for residence. The following factors will be considered relevant in evaluating a requested change in a student's nonresident status and in evaluating whether his or her physical presence in Indiana is for the predominant purpose of attending a college, university, or other institution of higher education.

The existence of one or more of these factors will not require a finding of resident student status, nor shall the non-existence of one or more require a finding of nonresident student status. All factors will be considered in combination, and ordinarily resident student status will not result from the doing of acts which are required or routinely done by sojourners in the state or which are merely auxiliary to the fulfillment of educational purposes.

- (a) The residence of a student's parents or guardians.
- (b) The situs of the source of the student's income.
- (c) To whom a student pays his or her taxes, including property taxes.

<sup>1</sup>Rules 2(b) and 2(c) apply only to unemancipated persons under 21 years of age.

<sup>2</sup>Invocation of the provision in Rule 2(a) that applies to cases of divorce or separation requires appropriate legal documentation.

- (d) The state in which a student's automobile is registered.
- (e) The state issuing the student's driver's license.
- (f) Where the student is registered to vote.
- (g) The marriage of the student to a resident of Indiana.
- (h) Ownership of property in Indiana and outside of Indiana.
- (i) The residence claimed by the student on loan applications, federal income tax returns, and other documents.
- (j) The place of the student's summer employment, attendance at summer school, or vacation.
- (k) The student's future plans including committed place of future employment or future studies.
- (l) Admission to a licensed profession in Indiana.
- (m) Membership in civic, community, and other organizations in Indiana or elsewhere.
- (n) All present and intended future connections or contacts outside of Indiana.
- (o) The facts and documents pertaining to the person's past and existing status as a student.
- (p) Parents' tax returns and other information, particularly when emancipation is claimed.
5. The fact that a person pays taxes and votes in the state does not in itself establish residence, but will be considered as hereinbefore set forth.
6. The Registrar or the person fulfilling those duties on each campus shall classify each student as resident or nonresident and may require proof of all relevant facts. The burden of proof is upon the student making a claim to a resident student status.
7. A Standing Committee on Residence shall be appointed by the President of the University and shall include two students from among such as may be nominated by the student body presidents of one or more of the campuses of the university. If fewer than four are nominated, the President may appoint from among students not nominated.
8. A student who is not satisfied by the determination of the Registrar has the right to lodge a written appeal with the Standing Committee on Residence within 30 days of receipt of written notice of the Registrar's determination, which Committee shall review the appeal in a fair manner and shall afford to the student a personal hearing upon written request. A student may be represented by counsel at such hearing. The Committee shall report its determination to the student in writing. If no appeal is taken within the time provided herein, the decision of the Registrar shall be final and binding.
9. The Standing Committee on Residence is authorized to classify a student as a resident student, though not meeting the specific requirements herein set forth, if such student's situation presents unusual circumstances and the individual classification is within the general scope of these Rules. The decision of the Committee shall be final and shall be deemed equivalent to a decision of the Trustees of Indiana University.
10. A student or prospective student who shall knowingly provide false information or shall refuse to provide or shall conceal information for the purpose of improperly achieving resident student status shall be subject to the full range of penalties, including expulsion, provided for by the University, as well as to such other punishment which may be provided for by law.
11. A student who does not pay additional monies which may be due because of his or her classification as a nonresident student within 30 days after demand, shall thereupon be indefinitely suspended.
12. A student or prospective student who fails to request resident student status within a particular semester or session and to pursue a timely appeal (see Rule 8) to the Standing Committee on Residence shall be deemed to have waived any alleged overpayment of fees for that semester or session.
13. If any provision of these Rules or the application thereof to any person or circumstance is held invalid, the invalidity does not affect other provisions or applications of these Rules which can be given effect without the invalid provision or application, and to this end the provisions of these Rules are severable.

## Fees

The instructional fees listed here were approved at the May 2000 meeting of the Trustees of Indiana University. Fees are subject to change by action of the trustees. For up-to-date information about fees in effect at registration time, see the campus *Schedule of Classes*.

Certain courses and programs requiring studios, laboratories, microscopes, computers, or other special equipment may involve special fees in addition to the instructional fee. Applied music, student teaching, and some physical education courses also carry additional fees. See the campus *Schedule of Classes* for a list of such courses and programs.

Fees for Indiana University campuses other than Bloomington and Indianapolis are published in the bulletin of the specific campus.

INSTRUCTIONAL FEES	Indiana Resident	Nonresident
	Bloomington Campus	
Undergraduate <sup>1</sup>	\$1,951.20 flat fee/semester for 12 to 17 credit hours \$121.80/credit hour under 12 or over 17	\$6,479.05 flat fee/semester for 12 to 17 credit hours \$404.90/credit hour under 12 or over 17
Graduate and Professional <sup>1</sup>		
Business-M.B.A. Program <sup>2</sup>	\$4,674.55/semester	\$9,349.10/semester
Business <sup>3</sup>	\$292.25/credit hour	\$584.70/credit hour
Law	\$255.10/credit hour	\$654.25/credit hour
Library and Information Science	\$178.35	\$519.50
Optometry	\$206.55/credit hour	\$573.55/credit hour
Public and Environmental Affairs—M.P.A. and M.S.E.S. Programs	\$204.10/credit hour	\$553.35/credit hour
Other	\$168.60/credit hour	\$491.15/credit hour
Independent Study (Correspondence)	\$99.60/credit hour	\$99.60/credit hour
Dissertation research (G901) <sup>4</sup>	\$150.00/semester	\$150.00/semester
Auditing (no credit)	\$25.00/credit hour	\$25.00/credit hour
Distance Education Special Courses <sup>5</sup> for Schools of Education; and Health, Physical Education, and Recreation:		
Graduate		
Undergraduate		

Same as rate for on-campus instruction in respective category

### Indianapolis Campus

Undergraduate <sup>1</sup>	\$119.00/credit hour	\$370.25/credit hour
Graduate and Professional <sup>1</sup>		
Business-M.B.A. Program	\$270.00/credit hour	\$540.00/credit hour
Business-M.P.A. Program	\$200.00/credit hour	\$400.00/credit hour
Dentistry	\$13,166.00/year	\$28,196.00/year
Engineering	\$178.25/credit hour	\$509.60/credit hour
Law	\$246.80/credit hour	\$599.40/credit hour
Medicine	\$13,908.00/year	\$31,847.00/year
Nursing	\$163.90/credit hour	\$472.85/credit hour
Social Work	\$167.00/credit hour	\$481.50/credit hour
Master of Accountancy	\$200.00/credit hour	\$400.00/credit hour
Other	\$163.90/credit hour	\$472.85/credit hour
Dissertation research (G901) <sup>4</sup>	\$100.00/semester	\$100.00/semester
Auditing (no credit)	Applicable credit hour rate	Applicable credit hour rate
Distance Education Special Courses for Allied Health Histotechnology: Graduate and Undergraduate		

Same as rate for on-campus instruction in respective category

<sup>1</sup> Includes credit courses in the School of Continuing Studies.

<sup>2</sup> M.B.A. students enrolled in 9 or more credit hours of business courses will be assessed a flat rate. Enrollment in any courses other than business will be assessed on a per-credit-hour basis.

<sup>3</sup> Graduate business credit hour rates apply to (a) M.B.A. students enrolled in fewer than 9 credit hours of business courses, and (b) students enrolled in a doctoral business program.

<sup>4</sup> To keep their candidacies active, doctoral students with 90 credit hours or more and Master of Fine Arts students with 60 credit hours or more may enroll in G901 for a flat fee of \$150. Also, they must have completed all graduate degree requirements except for the dissertation or final project/performance. Enrollment in G901 is limited to six times. Students who do not meet these criteria pay the applicable credit hour rate for dissertation research.

<sup>5</sup> In addition to instructional fee rates, course fees of \$90.00 for Education, \$75.00 for HPER, and \$50.00 for Library and Information Science will be assessed.

INCIDENTAL FEES <sup>6</sup>	Bloomington Campus	Indianapolis Campus
Application for admission		
Domestic, undergraduate	\$40.00	\$35.00
Domestic, graduate	\$45.00	\$55.00
International	\$45.00	\$55.00
Deferral service charge <sup>7</sup>	\$24.00	\$22.00
Health service fees <sup>8</sup>	\$76.50/semester \$32.80/summer I \$43.70/summer II	\$11.00/month \$19.00/course added
Late payment charge <sup>9</sup>	\$10.00-\$50.00/month	
Late program change <sup>10</sup>	\$21.00/course added or dropped	
Late registration <sup>11</sup>	\$54 to \$94/semester \$54.00/summer session	\$40.00 to \$100.00/ semester
Student activity fee <sup>12</sup>	\$26.77 or \$53.55/semester	\$40.00 to \$65.00/ summer session \$24.25 or \$44.10/ semester
Technology fee, fall or spring semesters <sup>13</sup>	\$13.37 or \$26.77/summer session	\$27.70/semester for Athletic Development
Undergraduate	\$25.00, \$50.00, \$100.00	\$27.85, \$55.70, \$83.55
Graduate/professional, nondegree students	\$12.00, \$25.00, \$50.00	(varies)
Technology fee, summer sessions <sup>14</sup>	\$25.00, \$50.00	\$27.85, \$41.75
Undergraduate		(varies)
Graduate/professional, nondegree students	\$12.00, \$25.00 \$9.00	\$7.00
University Division services fee	\$25.00/semester	
Business Undergraduate program fee	\$200.00/semester	

<sup>6</sup>Any payment due by you to the university that is not received by the due date is subject to a monthly late fee based on a sliding scale of at least \$10.00 (for fees of \$200.00 to \$999.99) and as much as \$50.00 (for \$5,000.00 or more). The late fee will continue to be assessed monthly until the account is restored to good standing.

<sup>7</sup>Fee is assessed if deferred billing option is elected.

<sup>8</sup>The health fee is assessed each semester/session on the Bursar's bill for all day and evening students enrolled in more than 3 credit hours. Eligible individuals not covered by the health fee will be seen on a fee-for-service basis.

<sup>9</sup>Any payment due by you to the university that is not received by the due date is subject to a monthly late fee based on a sliding scale of at least \$10.00 (for fees of \$200.00 to \$999.99) and as much as \$50.00 (for \$5,000.00 or more). The late fee will continue to be assessed monthly until the account is restored to good standing.

<sup>10</sup>After drop/add period (100 percent refund period), students will be assessed \$21.00 in Bloomington and \$19.00 in Indianapolis for each added course, section change, change of arranged hours, or credit/audit change. On the Bloomington campus, students will also be assessed for each dropped course.

<sup>11</sup>A late registration fee will be assessed any student who does not register during the scheduled registration period. On the Bloomington campus, the fee is \$54.00 for students who register by the last Friday before classes begin and increases by \$10.00 on the Monday of each successive week to a maximum of \$94.00. On the Indianapolis campus, a \$40.00 late registration fee is in effect upon conclusion of registration through the end of the first week of classes, increasing by \$25.00 the first week, \$20.00 the second week, and \$15.00 the third week to a maximum of \$100.00. In Indianapolis, summer sessions, a late registration fee of \$40.00 is assessed the first week, and \$65.00 the second week and thereafter.

<sup>12</sup>Bloomington students enrolled in 3 or fewer credit hours during the fall and spring semesters pay a mandatory student activity fee of \$26.77. Students enrolled in more than 3 credit hours pay \$53.55. Summer-session students pay a fee per session according to the number of credit hours in which they are enrolled: 3 or fewer credit hours, \$13.37; more than 3 credit hours, \$26.77. At Indianapolis, the student activity fee for 1 to 8 credit hours is \$24.25 per semester. Students enrolled in 9 or more credit hours pay \$44.10 per semester.

<sup>13</sup>A technology fee will be assessed according to the number of enrolled credit hours as follows: 3 credit hours or fewer; greater than 3 through 6 credit hours; greater than 6 credit hours.

<sup>14</sup>At Indianapolis, a technology fee is assessed for summer sessions according to the number of enrolled credit hours as follows: 3 or fewer credit hours; greater than 3 credit hours. At Bloomington, summer-session students are assessed half the regular-semester technology fee, based on the number of credit hours as follows: 3 credit hours or fewer; greater than 3 credit hours.

## Course Fee Refund Schedule

Time of Withdrawal	Refund	Time of Withdrawal	Refund
<b>9- through 16-week classes</b>		<b>1-week (or less) classes</b>	
During 1st week of classes	100%	During 1st day of classes	100%
During 2nd week of classes	75%	During 2nd day of classes	50%
During 3rd week of classes	50%	During 3rd day of classes and thereafter	None
During 4th week of classes	25%	The refund policy applies to credit hour fees and all course-related fees.	
During 5th week of classes and thereafter	None	<b>Procedure</b>	See the <i>Schedule of Classes</i> for more information about how to withdraw from classes.
<b>5- through 8-week classes</b>		<b>Student Financial Assistance</b>	Students can obtain information about financial assistance through the financial aid office, through the student employment office, or through their schools and departments. For courses taken in Bloomington, contact the Office of Student Financial Assistance or Human Resources Management for information about faculty/staff fee courtesy; for courses taken at IUPUI, contact the Office of Student Financial Aid Services.
During 1st week of classes	100%		
During 2nd week of classes	50%		
During 3rd week of classes and thereafter	None		
<b>2- through 4-week classes</b>			
During the 1st and 2nd day of classes	100%		
During 3rd and 4th day of classes	50%		
During 5th day of classes and thereafter	None		

## Veterans Benefits

Eligible students will receive veterans benefits according to the following scale, which is based on the number of credit hours in which the student is enrolled.

Undergraduate Benefits	Bloomington and IUPUI	IUPUI	Bloomington	Bloomington and IUPUI
full	Fall/Spring Semesters <sup>1</sup>	Summer I <sup>1</sup>	Summer I	Summer II <sup>1</sup>
three-quarters	12 or more	6	4	6
one-half	9-11	4-5	3	4-5
tuition only	6-8	3	2	3
	fewer than 6	1-2	1	1-2
<b>Graduate Benefits</b>				
full	8 or more	4	4	4
three-quarters	6-7	3	3	3
one-half	4-5	2	2	2
tuition only	fewer than 4	1	1	1

It is the responsibility of the veteran or veteran dependent to sign up for benefits each semester or summer session of enrollment. It is also the responsibility of the veteran or veteran dependent on the Bloomington campus to notify the Office of Veterans Affairs of any schedule change that may increase or decrease the amount of benefits allowed. Veterans and veteran dependents on the IUPUI campus should notify the Office of the Registrar.

Veterans with service-connected disabilities may qualify for the Department of Veterans Affairs Vocational Rehabilitation Program. They should contact their regional VA office for eligibility information.

At IUPUI, veterans and veteran dependents must notify their veteran benefit representative in the Office of the Registrar in person at the time of registration.

<sup>1</sup> Students on the IUPUI campus who are taking Summer I or II classes lasting more than six weeks should check with a VA representative in the Office of the Registrar for positive verification of their benefit status.

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School of Journalism  
Division of Labor Studies  
School of Law—Bloomington<sup>3</sup>  
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