

Informatics Program

2015 through 2020 Assessment Plan for the IU Kokomo BS in Informatics

Contents

- I. Introduction and mission statements
- II. Program goals and student learning outcomes
- III. Curriculum map
- IV. Assessment of student learning activities planned for 2015-2020
- V. Ongoing assessment

I. Introduction and mission statements

The Bachelor of Science degree in Informatics is one of the Bachelors degrees currently offered within the IU Kokomo School of Sciences. The degree was initiated in the fall of 2006 and replaced the prior Computer Information Systems (CIS) program. Versions of the Informatics degree are offered at other IU campuses although the program originated at IUB and IUPUI.

***Mission Statement:** We believe there is great need and opportunity for professionals trained in state-of-the-art information technology with an emphasis on the organizational and human issues of technology. There is an urgent need in our society for graduates with education and experience in informatics, particularly with interdisciplinary skills. Employers want to fill traditional jobs with people who understand the possibilities new technologies promise. Furthermore, employers also want IT people with strong communication and problem-solving abilities. The Informatics core courses and cognate specialty courses ensure that graduates will have a broad understanding of data processing as used in application areas.*

Informatics is committed to student learning, innovation, regional engagement, and the interdisciplinary application of technology. These goals are consistent with IU Kokomo's mission to "...enhance the educational and professional attainment of the residents of North Central Indiana..."

The Informatics program goals at IU Kokomo are:

- Goal A: Problem-Solving
- Goal B: Communication
- Goal C: Information Organization and Processing
- Goal D: Social/Organizational/Ethical Issue Integration
- Goal E: User/Context-Centered Design

II. Program goals and learning outcomes

Goal A: Problem-Solving

Student learning Outcomes:

A1. Students will be able to analyze and design a solution to a problem.

Components:

- a. Analysis
 - Performance Criteria
 - None
 - Partial
 - Complete
- b. Design
 - Performance Criteria
 - Unsatisfactory
 - Satisfactory
 - Exceptional

A2. Students will be able to prototype an application design (flowchart, pseudo code, storyboard, low/high-fidelity prototype).

Components:

- a. Prototype
 - Performance Criteria
 - Unsatisfactory
 - Satisfactory
 - Exceptional

A3. Students will be able to utilize a programming language to implement computer software.

Components:

- a. Coding standards compliance (naming, documentation, etc.)
 - Performance Criteria
 - Does not comply
 - Complies
 - Exceeds compliance
- b. Functionality
 - Performance Criteria
 - Does not run
 - Runs, but does not implement all requirements
 - Runs and implements all requirements
 - Runs and implements more than required

Goal B: Communication

Student learning Outcomes:

B1. Students will be able to introduce, analyze, support, and defend positions in a written document.

Components:

- a. Content
 - Performance Criteria
 - Superficial
 - Complete
 - Detailed

- b. Organization
 - Performance Criteria
 - Unorganized
 - Moderately well organized
 - Well organized

- c. Evidence
 - Performance Criteria
 - None
 - Limited
 - Sufficient
 - Substantial

B2. Students will be able to deliver an oral presentation on a technical topic.

Components:

- a. Content
 - Performance Criteria
 - Superficial
 - Complete
 - Detailed

- b. Organization
 - Performance Criteria
 - Unorganized
 - Moderately well organized
 - Well organized

- b. Supporting Visuals
 - Performance Criteria
 - None
 - Not supportive of the presentation
 - Supportive of the presentation

Goal C: Information Organization and Processing

Student learning Outcomes:

C1. Students will be able to understand and utilize digital representations of information for presentation and/or processing.

Components:

a. Digital representation understanding

Performance Criteria

Unsatisfactory

Satisfactory

Exceptional

b. Digital representation utilization

Performance Criteria

Can not utilize

Limited mastery

Satisfactory mastery

Exceptional mastery

C2. Students will be able to organize information in a database.

Components:

a. Database design

Performance Criteria

Unsatisfactory

Satisfactory

Exceptional

b. Database implementation

Performance Criteria

No implementation

Does not accurately implement the design

Accurately implement the design

C3. Students will be able to organize and categorize information to improve understanding and interpretation of the information.

Components:

a. Data gathering

Performance Criteria

None

Limited

Sufficient

Substantial

b. Data organization

Performance Criteria

Does not improve understanding

Provides limited improvement in understanding

Improves the understanding

Goal D: Social/Organizational/Ethical Issue Integration

Student learning Outcomes:

D1. Students will be able to analyze the social/organizational/ethical issues with the application of technology.

Components:

- a. Description
 - Performance Criteria
 - Superficial
 - Complete
 - Detailed
- b. Analysis
 - Performance Criteria
 - None
 - Partial
 - Complete
- c. Conclusion
 - Performance Criteria
 - Not based on argument
 - Partially supported
 - Fully supported

D2. Students will be able to apply social/organizational issues while designing/developing an information system.

Components:

- a. Application of social/organizational issues
 - Performance Criteria
 - Design/implementation does not reflect issues
 - Design/implementation partially reflect issues
 - Design/implementation fully reflect issues

Goal E: User/Context-Centered Design

Student learning Outcomes:

E1. Students will be able to analyze the user/contextual issues with the application of technology.

Components:

- a. Description
 - Performance Criteria
 - Superficial
 - Complete
 - Detailed

- b. Analysis
 - Performance Criteria
 - None
 - Partial
 - Complete

- d. Conclusion
 - Performance Criteria
 - Not based on argument
 - Partially supported
 - Fully supported

E2. Students will be able to apply user/contextual issues while designing/developing an information system.

Components:

- a. Application of user/contextual issues
 - Performance Criteria
 - Design/implementation does not reflect issues
 - Design/implementation partially reflect issues
 - Design/implementation fully reflect issues

III. Curriculum map

- INFO-I 101: Introduction to Informatics
- INFO-I 201: Mathematical Foundations of Informatics
- INFO-I 202: Social Informatics
- INFO-I 210: Information Infrastructure I (Introduction to Computer Programming)
- INFO-I 211: Information Infrastructure II (Object-Oriented Computer Programming)
- INFO-I 300: Human Computer Interaction
- INFO-I 303: Organizational Informatics
- INFO-I 308: Information Representation
- INFO-I 356: Globalization (fulfills the campus General Education requirement)
- INFO-I 450: Design of an Information System
- INFO-I 451: Development of an Information System (database)

--revisions needed Jan 2013--

The following summary provides an overview of the alignment of each Outcome to the curriculum. This indicates where Outcomes are introduced (I), expanded upon (E), and reinforced (R).

Student Learning Outcomes		I 101	I 201	I 202	I 210	I 211	I 300	I 303	I 308	I 356	I 450	I 451
Students will be able to ...												
A1	analyze and design a solution to a problem.	I	I		E	E	E	R			R	
A2	prototype an application design.				I	E	E				R	
A3	utilize a programming language to implement computer software.				I	E						R
B1	introduce, analyze, support, and defend positions in a written document.			I			E	E			R	
B2	deliver an oral presentation on a technical topic.			I			E	E				R
C1	understand and utilize digital representations of information for presentation and/or processing.	I			E	E			E			R
C2	organize information in a database.	I							E			R
C3	organize and categorize information to improve understanding and interpretation of the data.		I	I			E	E	E		R	
D1	analyze the social/organizational/ethical issues with the application of technology.	I		I				E		E	R	
D2	apply social/organizational issues while designing/developing an information system.			I			E				R	R
E1	analyze the user/contextual issues with the application of technology.			I			E	E			R	
E2	apply user/contextual issues while designing/developing an information system.			I			E				R	R

III. Assessment of student learning activities planned for:

2015-2016

Internal Program Review:

A. Goal/Outcome to be assessed:

Goal A: Problem Solving

Outcome A3: Students will be able to utilize a programming language to implement computer software

B. When, where, and how students will demonstrate their achievement

Informatics students enrolled in the spring 2015 offering of INFO-I 211 will be evaluated. The most significant programming assignment (the course's final project) of the semester will be used for this assessment evaluation.

C. Performance characteristics or criteria for successful achievement

The performance criteria that will be used are:

Program developed do not run

Programs developed run, but does not implement all requirements

Programs run and implements all requirements

Programs run and implements more than required

D. Benchmark level of performance that will be considered acceptable

The level of performance where the student creates programs that run and implement all of the requirements as specified in the project specifications document will be considered acceptable.

2016-2017

Internal Program Review:

A. Goal/Outcome to be assessed

Goal A: Problem Solving

Outcome A1: Students will be able to analyze and design a solution to a problem

Outcome A2: Students will be able to prototype an application design (flowchart, pseudo code, storyboard, low/high-fidelity prototype).

B. When, where, and how students will demonstrate their achievement

Informatics students enrolled in the fall 2016 online offering of INFO-I 300 will be evaluated. The first and second phases of the Interactive Design Project will be used for this assessment evaluation.

C. Performance characteristics or criteria for successful achievement

The requirements and design phase produced by the students will be assessed according to the performance criteria designed for this learning outcome as shown above

- D. Benchmark level of performance that will be considered acceptable

The level of performance where the student develops satisfactory requirement, conceptual models, and prototypes for the assigned problem will be considered acceptable. We expect that 80% of students will provide satisfactory or exceptional work.

2017-2018

External Program Review: The Informatics program is expected to conduct an external program review during fall 2017

Internal Program Review:

- A. Goal/Outcome to be assessed:

Goal C: Information Organization and Processing
Outcomes C1 through C3:

2018-2019

Internal Program Review:

- A. Goal/Outcome to be assessed:

Goal B (Communication) and Goal E (User/Context-Centered Design)
Outcomes B1 through B2 and E1 through E2 will be assessed

2019-2020

General Education Assessment: Students enrolled in INFO I356 (Globalization – where we fit in) course will be assessed for Cultural Diversity

Internal Program Review:

- A. Goal/Outcome to be assessed:

Goal D: Social/Organizational/Ethical Issue Integration
Outcomes D1 and D2 will be assessed

V. Ongoing assessment

Informatics faculty will review the assessment measures described previously and will discuss ways to improve student learning. Faculty will also participate in global, national, and regional conferences in order to bring new ideas into the curriculum to promote student learning.

- A. Data Collection and analysis**

1. Faculty will analyze each student's progress in the program annually.

2. Faculty will analyze graduating student exit interview data collected by the School' Dean.
3. Faculty will submit recommendations for improvements in courses to the School's Dean.
4. Faculty will prepare the annual Assessment Report.

B. Feedback and Analysis

1. After recommendations have been submitted, faculty will receive suggestions, comments and feedback from the Dean.
2. The annual assessment report will be circulated to School's members for comments.
3. The annual assessment report will be made available to Informatics adjunct faculty for review.
4. The annual assessment report will be submitted to the Indiana University Kokomo Assessment Committee.