

BIOLOGY ASSESSMENT PLANS 2006 - 2007

March 30, 2006

I. MISSION

The Biology program's mission is to prepare students for professional careers in areas such as medicine, veterinary medicine, dentistry, optometry and biology, and for acceptance into advanced graduate degree programs. The mission is consistent with the IU Kokomo Mission Statement.

II. GOALS

A. The goals for attaining these objectives and the relationship of these goals pertaining to the overall campus mission are indicated in the attached grid. The goals prepare students for professional careers in areas such as medicine, veterinary medicine, dentistry, optometry and biology, and for acceptance into advanced graduate degree programs.

B. Learning outcomes and components.

Goal # 1: Content:

1. describe the phylogenetic interrelationships between living organisms;
2. describe chemical and molecular processes fundamental to living organisms;
3. describe the biological world and its relationship to basic human needs and activities;
4. describe the interaction of plants, animals, microorganisms and their environment;
5. describe the cellular and molecular basis of genetics.

Goal #2: Methodology:

1. apply the methods biologists use to explore living organisms;
2. evaluate the outcomes of scientific experiments.

Goal #3: Impact on Biodiversity:

1. discuss the effect of the natural environment on humans;
2. the implications of human modification of the environment;
3. the consequences of the modifications.

Goal # 4: Unifying Principles within Biodiversity:

1. explain similar/identical features of living systems;
2. explain biodiversity.

III. Curriculum Map

See attached grid.

IV. Assessment of student learning planned for 2006 - 2007

A. Learning Outcomes - We plan to assess Content & Methodology (Fall and Spring)

B. - D. ----

Methodology

Course	BIOL-L 105	BIOL-L 364	BIOL-L 367	PLSC-B 203
Component (see III Grid)	1.	1.	2.	1.
Activity	Write detailed lab reports on DNA & Plasmid experiments	Identification of DNA sequence through the online GENBANK database	Write detailed research papers summarizing, synthesizing and evaluating primary research	Production of labeled drawings

Performance Characteristics	Correct/incorrect complete/incomplete precise/vague, simple/more fully developed, concise/verbose, straightforward/di-gressive, clear/unclear, comprehensible/incomprehensible, relevant/irrelevant	Same	Same	Same
Benchmark	70%	75%	75%	70%

Content

Course	BIOL-L 105	BIOL-L 364	BIOL-L 367	PLSC-B 203
Component (see III Grid)	6.	5.	1.	6.
Activity	Exam	Exam	Exam	Exam
Performance Characteristics	Correct/incorrect	Correct/incor- orrect	Correct/incor- rect	Correct/incorr- ect
Benchmark	60%	60%	60%	60%

V. Ongoing Assessment

A. Complete

B. N/A

C. N/A

GOALS – Biology BA	OUTCOMES - Students will be able to:	Components	Learning Objects	Characteristics	Activities	Indicators
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Content	<p>1. describe the phylogenetic interrelationships between living organisms;</p> <p>2. describe chemical and molecular processes fundamental to living organisms;</p> <p>3. describe the biological world and its relationship to basic human needs and activities;</p> <p>4. describe the interaction of plants, animals, microorganisms and their environment;</p> <p>5. describe the cellular and molecular basis of genetics.</p>	<p>1. Observation, comparison, data collection, interpretation, evaluation;</p> <p>2. Experimentation, measurement, data collection, interpretation, evaluation;</p> <p>3. Measurement; data collection; observation; evaluation; calculation;</p> <p>4. Measurement; data collection; observation; evaluation; calculation;</p> <p>5. Measurement; data collection; observation; evaluation; calculation.</p> <p>6. Pre/Post Exam</p>	<p>Objective examinations, T/F examinations, short answer essays, fill-in-the-blank examinations, essays, oral presentations, term papers, senior seminar papers, laboratory practical exams, lab drawings, lab project reports, graded lab homework, data sheets, lab quizzes, review & analysis of journal articles, identification of unknowns, peer review or papers.</p>	<p>Correct/incorrect, complete/incomplete/precise/vague, simple/more fully developed, concise/verbose, straightforward/digressive, clear/unclear, comprehensible/incomprehensible, relevant/irrelevant.</p>	<p>Lectures, laboratories, assignments, group discussions, presentations, dissections, mathematical analysis, computer simulations</p>	<p>Grades in courses, pre/post tests, Biology Major Field Assessment Test score, Biology Major Field Assessment Test Indicator scores, Medical College Admission Test scores, Dental Aptitude Test scores, Graduate Record Examination Test scores, Optometry Aptitude Test scores, other nationally-normed standard test scores.</p>
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Methodology	<ol style="list-style-type: none"> 1. apply the methods biologists use to explore living organisms 2. evaluate the outcomes of scientific experiments 	<ol style="list-style-type: none"> 1. Observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence and employment of mathematical analysis. 2. Summarize, draw conclusions. 	Same	Same	Same	Same
Impact on biodiversity	<ol style="list-style-type: none"> 1. discuss the effect of the natural environment on humans. 2. the implications of human modification of the environment 3. the consequences of the modifications 	<ol style="list-style-type: none"> 1. Observation, argumentation, summarize, draw conclusions. 2. Measurement, data collection, modeling, interpretation, prediction. 3. Measurement, data collection, modeling, interpretation, prediction. 	Same	Same	Same	Same

Unifying principles within biodiversity	<ol style="list-style-type: none"> 1. explain similar/identical features of all living systems; 2. explain biodiversity. 	<ol style="list-style-type: none"> 1. Observation, comparison, data collection, interpretation, evaluation 2. Observation, argumentation, summarize, draw conclusions. 	Same	Same	Same	Same
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