



NORTHERN ILLINOIS UNIVERSITY

## College of Liberal Arts and Sciences

*Department of Biological Sciences*

### Assessment Plan 2012-2013

**Program:** B.S. in Biological Sciences

A Bachelors' degree in Biological Sciences is most often a foundation for advancement to professional or vocational programs in biology-related disciplines. Graduates of the program in will be prepared to advance to successful careers in biological sciences - related disciplines in the public or private sectors, either immediately, or through additional terminal or professional training.

#### 1. Learning Objectives

Graduates of the program will be prepared for successful careers in biologically-related disciplines by demonstrating:

1. Proficiency in 5 major areas of biology in line with national standards.
  - a. Evolution/Diversity/Ecology
  - b. Cell and Molecular Biology
  - c. Genetics
  - d. Biological reasoning and critical thinking
  - e. Data analysis and technology
2. Effective scientific communication skills
3. Execution of laboratory and field research skills
4. Proficiency in critical thinking,
5. Appropriate use of the scientific method.
6. Technical writing proficiency
7. An intention/commitment to pursue vocational or professional biological science-related careers upon completion of the BS program



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### 2. Methods

Method	Description/Target	Timeline	Person/People Responsible	Objectives Assessed
Capstone Course: (BIOS 494) Comprehensive Examination	Seniors in their last semester take a standardized test on topics listed in 1a-1e on an exam crafted to reflect similar questions on the MCAT and GRE biology subject tests. <u>Target:</u> At least 80% of the students will demonstrate proficiency in 5 areas of biology in line with national standards.	Fall and spring semester every year	Director of Undergraduate Studies (DUGS)	1, 2,4,6
Capstone Course: (BIOS 494) Writing Assessment	Writing assessment administered during the BIOS 494 capstone course. This is based on the results of 2 in-class essays. <u>Target:</u> At least 80% of the graduating seniors will demonstrate technical writing proficiency and scientific communication skills.	Fall and spring semester every year	Director of Undergraduate Studies	2,6
Participation in the NIU Writing Across the Curriculum Program	Faculty members who incorporate student writing assignments as part of their course are solicited by the NIU Assessment Office to submit their student 's papers to be evaluated by reviewers who in turn provide feedback to the instructors on their students' performance. <u>Target:</u> At least 80% of the students evaluated will	Fall and spring semester every year	BIOS faculty/ Dept Chair	2,6



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	meet or exceed standards for writing proficiency and communication skills.			
Mentored Laboratory/Field Research (BIOS 370, 495)	<p>Students are encouraged to engage in mentored research experiences during their undergraduate careers. Faculty evaluate students based on performance and growth in these experiential courses. (BIOS 370, 495); Research assessment based on faculty feedback during the Departmental Undergraduate Research Symposium and the University Research Day</p> <p><u>Target:</u> Given current capacity constraints, we would like to see at least 50% of our majors engage in such experiences during their undergraduate careers. Of the students who engage in research, we would like to see &gt;80% should demonstrate proficiency in the following:</p> <p>a) scientific communication skills b) laboratory and field research skills, c) critical thinking, d) appropriate use of the scientific method.</p>	Offered year-round; Department and University Research Symposia held in April of every academic year.	BIOS faculty/DUGS/Dept Chair	1,2,3,4,5,6
Capstone Course:	Upon completion of	Survey is given	DUGS	7



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Senior Exit Survey	the Biological Sciences curriculum, we hope to have >50% of the BIOS majors pursue advanced degrees and secondly, have > 80% of them report that they were satisfied with their educational experience at NIU	to all graduating seniors in their last semester throughout the academic year.		
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### Outcomes-by-Methods

	Capstone Exam	Capstone writing/WAC	Mentored Research/symposia	Senior Exit Survey
BIOS Proficiency	X		X	
Communication		X	X	
Research Skills			X	
Critical Thinking	X		X	
Writing		X	X	
Scientific Method			X	
Advanced Career Training				X