

School of Biological Sciences
Illinois State University

Program Learning Objectives for the B.S. Degree

The B.S. program in Biological Sciences prepares students for continuing into graduate and professional programs, for careers as biology teachers, and for careers in the expanding areas of biology-related fields. Students in the program gain a deep understanding of the discipline of biology.

-First, they develop an understanding of the fundamental concepts that unite fields of biology. These concepts are central themes that are essential for anyone pursuing a career in biology-related fields.

-Next, students are shown that biology is a set of related disciplines. Students gain insight into the unique aspects of subdisciplines as well as an integrated view of these disciplines as part of the unified field.

-Additionally, students are encouraged to gain an understanding of scientific research as a process. This is accomplished by covering the scientific method and research approaches, as well as encouraging students to participate in research projects under faculty supervision.

-Finally, students involved in the program develop related skills such as statistical evaluation and scientific literacy.

Program Goal	Understanding of fundamental concepts of Biology					
Outcomes	Data Needed	Data Already Available	What group will be assessed	Assessment Methods	Who will conduct assessment	Timeline
Demonstrating command of material through performance in Core classes	Student scores on exams & labs	Yes	Students enrolled in BSC 196, 197, 219 & 297	Direct: Examinations, problem solving worksheets, lab reports	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
Alumni satisfaction	Responses to alumni survey regarding quality of content of general core classes	Yes but modification of questions is needed	Graduates of B.S. program	Indirect: Survey	Assistant Director of Undergraduate Studies	Performed as part of Program Review
Content exam	Scores on standardized content exam	No	Incoming Freshmen, students in Junior year and students in Senior semester	Direct: Standardized exam with questions covering fundamental biological concepts	Undergraduate Studies Committee	Annual

Program Goal	Insight into disciplines that extend from central concepts					
Outcomes	Data Needed	Data Already Available	What group will be assessed	Assessment Methods	Who will conduct assessment	Timeline
Performance in elective courses	Student scores on exams and labs	Yes	Students in elective BSC major courses including flexible core classes	Direct: Examinations, problem solving worksheets, lab reports	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
C or better grade in 300-level course	Student grade in BSC major 300-level courses	Yes	Undergrads enrolled in 300-level courses	Direct: Examinations, problem solving worksheets, lab reports	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
Student satisfaction	Student responses to course survey	Yes	Students enrolled in BSC major elective courses	Indirect: Student survey	School of Biological Sciences	Annual

Program Goal	Functional understanding or scientific method and research					
Outcomes	Data Needed	Data Already Available	What group will be assessed	Assessment Methods	Who will conduct assessment	Timeline
Exposure to scientific method and exercises in its proper uses and limitations	Student grades in BSC 204 Biological Investigations and other teaching labs	Yes	All majors	Direct: Writing assignments, research proposals and discussions on research approach	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
Student involvement in research projects	Enrollment and progress in BSC 290	Yes	Students enrolled in BSC 290	Direct: Students and faculty mentor will produce written progress report of research each semester	Faculty mentor will forward to Undergraduate Studies committee	Annual
Student involvement in Senior Thesis	Enrollment and performance in BSC 303	Yes	Students completing senior thesis option	Direct: Students will write and defend a thesis based on their personal research project	Senior thesis committee and Undergraduate Studies Committee	Annual

Program Goal	Fostering development of related skills					
Outcomes	Data Needed	Data Already Available	What group will be assessed	Assessment Methods	Who will conduct assessment	Timeline
Familiarity with statistical analyses	Student performance in BSC 196, 197, 201 and 204 in which basic statistical methods are covered	No. Specific data needs to be refined	All majors	Direct: Quiz, homework, and lab assignments	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
Scientific literacy	Student performance in BSC 204 and other classes in which they utilize primary scientific literature	Yes/No Data from BSC 204 is now available and other courses will be using primary literature more in coming semesters	All majors in BSC 204 and other courses utilizing primary literature	Direct: Written reports, class discussions, and homework requiring reading or writing of scientific technical writing.	Course instructors will perform immediate assessment; School Undergraduate Studies Committee will collect and review performance	Annual
Student satisfaction	Student responses to course survey	Yes	Students enrolled in BSC major elective courses	Indirect: Student survey	School of Biological Sciences	Annual

