

2021-2022 Assessment Cycle

## **Assessment Plan**

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### **Mission Statement**

Biology is an integrative discipline that emerges from all areas of the natural sciences and builds upon those foundations. In the spirit of our discipline the Biology Department is committed to providing students with a strong foundation in the life sciences that culminates in specialized experiences designed to prepare students not only for diverse career opportunities available in the biological sciences, but also to be life-long learners. Fundamental to our students' development is the acquisition of a broad knowledge base, the ability to integrate and apply this knowledge, and the ability to communicate observations and analyses. Through close interaction with our faculty in the classroom and in research environments the Biology Department fosters students' innate desire for discovery and helps them develop the skills and modes of thinking that will empower their contributions to an ever-expanding understanding of the natural world.

Faculty members professionally engage in their sub-disciplines through scholarly work and service, enabling them to contribute to the evolution of their disciplines and engaging them as active members of the greater scientific community abreast of the dynamic nature of their fields. This engagement functions to meet changing student needs within the Biology Department, Allied Health, pre-Nursing and other programs and serves as resources of life science knowledge and awareness of biological issues for the community at large. We strive to establish and maintain the highest standards of curricular innovation, academic rigor, technical skill, modern physical facilities, and personalized mentorship, in support of our primary goal: providing a high quality learning experience for all students that we engage. We are, above all, a student-centered team of teachers.

### **Measures**

#### **BS Molecular & Biotechnology Outcome Set**

PSLO 1

**Outcome: Acquire a comprehensive understanding of biological principles**

Acquire a comprehensive understanding of biological principles including cell biology, genetics, organismal biology, structure and function, ecology and evolution.

▼ **Measure:** Biology Major Field Test

*Other level Direct - Exam*

**Details/Description:** The Major Field Test in Biology assesses mastery of concepts principles and knowledge by graduating Biology students. It is a multiple-choice test with 150 questions organized into four major areas; 1) cell biology, 2) molecular biology and genetics, 3) organismal biology, and 4) population biology, evolution and ecology.

**Acceptable Target:** Above the national standard un all sub-areas of the exam

▼ **Measure:** Course Grades

*Course level Direct - Exam*

**Details/Description:**

**Acceptable Target:** 60% earn a B or better for BI 102; 75% earn a B or better for all other courses.

▼ **Measure:** Senior Exit Survey

*Program level Indirect - Survey*

**Details/Description:**

**Acceptable Target:** 100% of students agree with survey questions pertaining to PSLO 1

**Supporting Attachments:**

 Senior Exit Survey Questionnaire (Word Document (Open XML))

## PSLO 2

### **Outcome: Scientific method**

Acquire the ability to understand and utilize the scientific method.

▼ **Measure:** Course Grades  
*Course level Direct - Exam*

Details/Description:


Acceptable Target: 60% earn a B or better for BI 102; 75% earn a B or better for all other courses

▼ **Measure:** Senior Exit Survey  
*Program level Indirect - Survey*

Details/Description:

Acceptable Target: 100% of students agree with survey questions pertaining to PSLO 2

Supporting Attachments:

 Senior Exit Survey Questionnaire (Word Document (Open XML))

## PSLO 3

### **Outcome: Master a variety of scientific techniques**

Master a variety of scientific techniques in the core biology disciplines of organismal biology, microbiology, genetics, molecular biology and undergraduate research.

▼ **Measure:** Course Grades  
*Course level Direct - Exam*

Details/Description:

Acceptable Target: 100% earn a B or better in BI 395; 75% earn a B or better in all other courses

▼ **Measure:** Senior Exit Survey  
*Program level Indirect - Survey*

Details/Description:

Acceptable Target: 100% of students agree with survey questions pertaining to PSLO 3

Supporting Attachments:

 Senior Exit Survey Questionnaire (Word Document (Open XML))

#### PSLO 4

**Outcome: Scientific data**

Develop the ability to analyze and interpret scientific data.

▼ **Measure:** Course Embedded Assignment  
*Course level Direct - Other*

Details/Description:

Acceptable Target: Oral Communication Rubric - 90% of majors are at target (3) level for all rubric components involving oral presentation

Written Communication Rubric - 80% of majors

earn a B or better in research paper writing for BI 333

▼ **Measure:** Course Grades  
*Course level Direct - Exam*

Details/Description:


Acceptable Target: 75% earn a B or better in BI 333 and BI 390

▼ **Measure:** Senior Exit Survey  
*Program level Indirect - Survey*

Details/Description:

Acceptable Target: 100% of students agree with survey questions pertaining to PSLO 4

Supporting Attachments:

 Senior Exit Survey Questionnaire (Word Document (Open XML))

## PSLO 5

### **Outcome: Oral and written presentation skills**

Develop the oral and written presentation skills to successfully communicate scientific information in a professional manner.

▼ **Measure:** Course Embedded Assignment  
*Course level Direct - Other*

Details/Description:

Acceptable Target:

Oral Communication Rubric - 90% of majors are at target (3) level for all rubric components involving oral presentation

▼ **Measure:** Course Grades

*Course level Direct - Exam*

Details/Description:

Acceptable Target:

75% earn a B or better in BI 390, BI 395 and BI 440

▼ **Measure:** Performance Assessment

*Course level Direct - Student Artifact*

Details/Description:

Acceptable Target:

60% of majors present at least once at a conference

▼ **Measure:** Senior Exit Survey

*Program level Indirect - Survey*

Details/Description:

Acceptable Target:

100% of students agree with survey questions pertaining to PSLO 5

Supporting Attachments:

 Senior Exit Survey Questionnaire (Word Document (Open XML))

## Analysis and Reporting Calendar

Data are collected and analyzed for each PSLO (1-6) every semester.

## Stakeholder Involvement

Every year, all biology faculty have access to assessment data and reports. These are briefly discussed at a faculty meeting. If needed, faculty meet again to discuss and implement changes regarding the assessment plan. We will also receive feedback from organizations that host BI 440 biotechnology internship and from graduate or professional schools that our students attend after receiving their degree.

## Program Assessment Plan Review Cycle

The Program Assessment Plan is reviewed every 3 years.

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