

Assessment Plan

2017-18



Program (CENG) - Biology

University Mission: George Fox University, a Christ-centered community, prepares students spiritually, academically, and professionally to think with clarity, act with integrity, and serve with passion.

Program Mission: The Biology department will promote an environment that encourages both faculty and students to reach their full potential in understanding the natural order and its relationship to the spiritual journey, use science as the epistemology of the natural world, and engender a reflective life of the mind, especially at the interface of science, faith, and service.

Alignment of Program Mission to GFU Mission: The program mission aligns with the first three Core Themes: Liberal Arts Foundation, Professional Preparation and Christ-Centered Community.

Degree Outcomes:

Graduates with a BS in biology will:

- + Understand, interpret and communicate scientific information
- + Demonstrate a broad understanding of field biology, biodiversity, systems-level biology and cell/molecular biology
- + Understand the basic forms of scientific inquiry
- + Evaluate the compatibility of science and faith in their worldview

Assessment Coordinator: Jeff Duerr

Outcome: Biological Knowledge

Knowledge and competency of field biology, biodiversity, systems level biology and cell/molecular biology.

Outcome Status: Active

OutcomeType: Student Learning Outcome

Start Date: 11/03/2011

Assessment Tools

Exam/Quiz - National/State - Biology Major Field Exam (Active)

Target: 50% of students will perform at or above 50th percentile.

Schedule for Data Collection: April

Schedule for Data Analysis & Reporting: May 15 of each year

Related Goals

Program (CENG) - Biology

Departmental - Students will gain a solid foundation of scientific knowledge and methods consistent with the core concepts and competencies as defined in the NSF/HHMI Vision & Change mandate.

Outcome: Scientific Communication Skills

Understand, interpret, and communicate scientific information.

Outcome Status: Active

OutcomeType: Student Learning Outcome

Start Date: 11/01/2011

Assessment Tools

Program (CENG) - Biology

Presentation/Performance - Oral reports in Cell biology, Ecology (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Each April when courses are offered.

Schedule for Data Analysis & Reporting: Reporting due by May 15 of each year.

Writing Assignment - Laboratory reports in Animal Physiology, Ecology, Cell Biology and Genetics. (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Either December or April of each year.

Schedule for Data Analysis & Reporting: May 15 of each year.

Writing Assignment - Biolit Assignment #3 (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Spring semester BIOL 212

Schedule for Data Analysis & Reporting: May 15 of each year

Writing Assignment - Hypothesis development and scientific report writing (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Odd year Spring semester in BIOL 360 Ecology

Schedule for Data Analysis & Reporting: May 15 of odd numbered years

Related Goals

Core Themes

Core Theme 1.2 - Campus Climate. Sponsor a wide variety of public lectures, performances, and other events that create and sustain a campus climate in which civil discourse flourishes.

Program (CENG) - Biology

Departmental - Students will be proficient in scientific communication and collaboration.

Outcome: Scientific Method

Students will understand the basic forms of scientific inquiry.

Outcome Status: Active

OutcomeType: Student Learning Outcome

Start Date: 11/01/2011

Assessment Tools

Writing Assignment - Biolit Assignment #3 (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Spring semester BIOL 212

Related Goals

Program (CENG) - Biology

Departmental - Students will gain a solid foundation of scientific knowledge and methods consistent with the core concepts and competencies as defined in the NSF/HHMI Vision & Change mandate.

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Outcome: Science-Faith Integration

Students will be able to evaluate the compatibility of science and faith in their worldview.

Outcome Status: Active

OutcomeType: Student Learning Outcome

Start Date: 11/01/2011

Assessment Tools

Writing Assignment - Faith Integration Essay in BIOL 490 (Active)

Target: 50% of students will score >80%

Schedule for Data Collection: Fall semester

Schedule for Data Analysis & Reporting: May 15 of each year

Related Goals

Program (CENG) - Biology

Departmental - Students will be able to integrate Science and Christian faith into their worldview.

Outcome: Core Concept 1.1

Evolution - Molecular/Cellular

Outcome Status: Active

Outcome: Core Concept 1.2

Evolution - Physiology

Outcome Status: Active

Outcome: Core Concept 1.3

Evolution - Ecology

Outcome Status: Active

Outcome: Core Concept 2.1

Information Flow - Molecular/Cellular

Outcome Status: Active

Outcome: Core Concept 2.2

Information Flow - Physiology

Outcome Status: Active

Outcome: Core Concept 2.3

Information Flow - Ecology/Evolution

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Outcome Status: Active

Outcome: Core Concept 3.1

Structure/Function - Molecular/Cellular

Outcome Status: Active

Outcome: Core Concept 3.2

Structure/Function - Physiology

Outcome Status: Active

Outcome: Core Concept 3.3

Information Flow - Ecology/Evolution

Outcome Status: Active

Outcome: Core Concept 4.1

Transformations/Energy/Matter - Cell/Molecular

Outcome Status: Active

Outcome: Core Concept 4.2

Transformations/Energy/Matter - Physiology

Outcome Status: Active

Outcome: Core Concept 4.3

Transformations/Energy/Matter - Ecology/Evolution

Outcome Status: Active

Outcome: Core Concept 5.1

Systems - Molecular/Cellular

Outcome Status: Active

Outcome: Core Concept 5.2

Systems - Physiology

Outcome Status: Active

Outcome: Core Concept 5.3

Systems - Ecology/Evolution

Outcome Status: Active

Program (CENG) - Biology

Outcome: Core Competency 1

Process of Science

Outcome Status: Active

Outcome: Core Competency 2

Quantitative Reasoning

Outcome Status: Active

Outcome: Core Competency 3

Modeling and Simulation

Outcome Status: Active

Outcome: Core Competency 4

Interdisciplinary nature of science

Outcome Status: Active

Outcome: Core competency 5

Communication & Collaboration

Outcome Status: Active

Outcome: Core competency 6

Relationship of science & society

Outcome Status: Active