

ENVIRONMENTAL SCIENCE MAJOR

LEARNING OUTCOMES, PERFORMANCE INDICATORS, & MEASURES

Learning Outcomes <i>Students will be able to:</i>	Performance Indicators	Measures	How is the information used?
<p>1. Demonstrate a broad knowledge of environmental science and develop competency in biology, chemistry, and Earth science.</p>	<p>A. Understanding of the basic chemical principles, cell structure and organization, and metabolism of living organisms.</p> <p>B. Understanding of plant and animal anatomy and physiology, with an emphasis on form and function.</p> <p>C. Understanding of the diversity of organisms, systematic biology and phylogeny, and biological interactions over geological time.</p> <p>D. Understanding the role of evolution in generating the diversity of form and function seen in life on Earth.</p> <p>E. Understanding the role of the environment in determining the outcome of biological interactions.</p> <p>F. Identifying the consequences of environmental changes arising from human activities.</p>	<p>A. Performance on 10 questions on exams that measure the Performance Indicators for BL155/157.</p> <p>B. Performance on 10 questions on exams that measure the Performance Indicators for BL156/158.</p> <p>C. Performance on 10 questions on exams that measure the Performance Indicators for BL159/160.</p> <p>D. Performance on 10 evolution-themed questions in BL159 and BL222.</p> <p>E. Performance on 10 questions in BL222. Performance on 10 questions in BL331 (climate change) and PH206 (pollution and conservation topics). Signature assignment in BL417: Lab report on environmental change.</p>	<p>The Biology Assessment Coordinator will collect the evidence from instructors each year. This evidence will be provided to Biology faculty and discussed at a departmental faculty meeting. A biennial report of evidence will be submitted to the university's Director of Assessment.</p>
<p>2. Use critical thinking to evaluate and interpret biological and environmental phenomena.</p>	<p>A. Critically assess and accurately interpret scientific data presented in visual or tabular form.</p> <p>B. Identify the scientific underpinnings of current environmentally-themed news.</p>	<p>A. Signature assignments in BL331: Evaluating evidence and graphs produced by climate scientists and opponents of climate change theory. Critically analyze primary literature in an essay</p>	<p>The Biology Assessment Coordinator will collect the evidence from instructors each year. This evidence will be provided to Biology faculty and discussed at a departmental faculty meeting. A biennial report of evidence will be</p>

		<p>writing exercise. The results will be reported as “exceeds expectations”, “meets expectations”, or “doesn’t meet expectations”.</p> <p>B. Current news critiques in PH206 and BL331. The results will be reported as “exceeds expectations”, “meets expectations”, or “doesn’t meet expectations”.</p>	<p>submitted to the university’s Director of Assessment.</p>
<p>3. Collect and analyze scientific data and communicate its importance through effective oral and written presentation.</p>	<p>A. Demonstrate competence in conducting original research.</p> <p>B. Present research results orally and in writing.</p>	<p>A. Performance on group research projects in relevant classes. The results will be reported as “exceeds expectations”, “meets expectations”, or “doesn’t meet expectations”.</p> <p>B. Written and oral presentations as assessed using a common evaluative instrument. The results will be reported as “exceeds expectations”, “meets expectations”, or “doesn’t meet expectations”.</p>	<p>The Biology Assessment Coordinator will collect the evidence from instructors each year. This evidence will be provided to Biology faculty and discussed at a departmental faculty meeting. A biennial report of evidence will be submitted to the university’s Director of Assessment.</p>

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