Assessment Report - Four Column

Eastern Oregon University

Program (CAS) Biology

Catalog Description: The Biology/Botany degree provides knowledge of the biological sciences necessary for students pursuing careers, graduate study, or professional study for which a baccalaureate degree is appropriate.

How Program serves the Mission: Biology/Botany: The Biology/Botany program provides knowledge of the life sciences necessary for students pursuing careers in graduate study, or professional studies. Courses also prepare students in related fields, such as nursing, secondary education, wildlife, agriculture, and forestry. The Biology program graduates the largest number of students within the science disciplines. Graduates of this program find employment in state and federal agencies; many continue on to graduate or professional schools pursuing advanced degrees in health related fields.

Program Outcomes	Means of Assessment & Benchmark / Tasks	Data Analysis	Closing the Loop & Follow-Up
Program (CAS) Biology - Integrated Learning through Critical Thinking - Students will integrate their knowledge (content) of biology, chemistry, physics, and social systems through critical analysis of ecosystems, biological evolution, and the biotechnological revolution. **Year(s) to be Assessed:** 2011-2012 2016-2017 **Outcome Status:** Active	**Description of Assessment:** Graded expositions **Benchmark:** Proficient **Description of Assessment:** Outcome: Integrated Learning through Critical Thinking to be assessed 11-12		
Program (CAS) Biology - Community/Civic engagement - Students will learn to engage in and apply scientific inquiry to conservation activities that involve the wider regional community. **Year(s) to be Assessed:** 2012-2013 2017-2018 **Outcome Status:** Active	**Description of Assessment:** Graded notebook (journal) and reports **Assessment Type:** Writing Assignment **Benchmark:** Adequate **Description of Assessment:** Due to assess Community/Civic Engagement 12-13		
Program (CAS) Biology - Breadth of Knowledge - Students will master the basic foundational content in the field of biology and apply it to critical analysis and creative	**Description of Assessment:** ETS Major Field Test **Assessment Type:** Exam/Quiz - Standardized	07/12/2011 - We have concluded that overall our average performance should fall within +/-10% of the national average to be adequate. A lower performance (less than -10% of national average)	07/12/2011 - Strengths: This test allows us to assess our students? mastery of biology in the primary

Program Outcomes	Means of Assessment & Benchmark / Tasks	Data Analysis	Closing the Loop & Follow-Up
application of that content. **Year(s) to be Assessed:** 2008-2009 2013-2014 **Outcome Status:** Active	**Benchmark:** Average score equivalent to national average	we consider our students to be developing, and a score of more than 10% above the national average we consider them to be to be proficient. As quantified in table below, our students have consistently outperformed the national average, but their average remains in that +/- 10% zone. **Benchmark Met:** Yes **Reporting Year:** 2008-2009 **Related Documents:** Assessment Summary	sub-fields of biology - Cell Biology, Molecular Biology, Genetics, Ecology, and Population Biology. We can also compare performance of our students with that of students across the nation. Moreover, the extensive set of assessment indicators allows us to determine where strengths of the program lie, as well as which areas might need attention. Weaknesses: This is a standardized test and inherently carries problems of all standardized tests. These include pressure on instructors to teach to the test, inability of students to answer content questions if instructors are not teaching to the test, and the lack of study incentive that accompanies a test that is not part of the grade. Conclusions: Our students have outperformed the national average in all categories, but for the most part remain in the zone =/- 10% above the national average. Recommendations: In some subject areas performance is only slightly above the national average. We have concluded that this is due to curriculum structure rather than actual deficiencies in curricular content- a consequence of delivered curriculum not matching that expected by the standardized test.

Program Outcomes	Means of Assessment & Benchmark / Tasks	Data Analysis	Closing the Loop & Follow-Up
Program (CAS) Biology - Creative Inquiry - Students will demonstrate the ability to design (create) and conduct experiments to answer biological questions. This process is based upon the tenets of the scientific method. **Year(s) to be Assessed:** 2009-2010 2014-2015 **Outcome Status:** Active	**Description of Assessment:** BIOL 211/212: Formal Lab Report **Benchmark:** 70% at 2 or 3	07/12/2011 - The lab report is scored as follows: 5 points introduction and abstract, 5 points materials and methods, 10 points results, 10 points discussion. For a given student, a score of 70% on this report is considered adequate, less than 70% is developing. 85% and above is considered proficient. 38 of 42 students scored in the adequate or proficient range. **Benchmark Met:** Yes **Reporting Year:** 2009-2010 **Related Documents:** Assessment Summary	07/12/2011 - Strengths: This assignment allows the student to engage in formal hypothesis development and creative design of an experiment to answer a question about the world around them. This is carried out in a team environment. Since laboratory experiments are always repeated multiple times, the re-execution of this experiment in the second term of the principles series models an authentic science experiment. Weaknesses: Individual thinking is not promoted by team situations, and poor students may ride on the labors of hard-working colleagues. Also, students are not well equipped to design the experiment in a fashion that fosters treatment of data with simple statistics. Conclusions: This is an effective and authentic introduction to the realities of scientific inquiry. Recommendations: In the future we need to add a short introduction to basics statistics to our custom lab manual for the class.
Program (CAS) Biology - Program Review - No Assessment - Program Review **Year(s) to be Assessed:** 2015-2016			

Program Outcomes	Means of Assessment & Benchmark / Tasks	Data Analysis	Closing the Loop & Follow-Up
Start Date: 02/11/2013 **Outcome Status:** Active			

Curriculum Map

Eastern Oregon University

Program (CAS) Biology

Program (CAS) Biology

Integrated Learning through Critical Thinking - Students will integrate their knowledge (content) of biology, chemistry, physics, and social systems through critical analysis of ecosystems, biological evolution, and the biotechnological revolution.

* BIOL 211 - BIOL 211 - Prin of Biology*SMI
* BIOL 212 - BIOL 212 - Prin of Biology*SMI
* BIOL 213 - BIOL 213 - Prin of Biology*SMI
* BIOL 323 - BIOL 323 - General Microbiology
* BIOL 334 - BIOL 334 - Plant Taxonomy
* BIOL 341 - BIOL 341 - Genetics
* BIOL 357 - BIOL 357 - General Ecology
* BIOL 490 - BIOL 490 - Evolution

Community/Civic engagement - Students will learn to engage in and apply scientific inquiry to conservation activities that involve the wider regional community.

* BIOL 213 - BIOL 213 - Prin of Biology*SMI

Breadth of Knowledge - Students will master the basic foundational content in the field of biology and apply it to critical analysis and creative application of that content.

* BIOL 211 - BIOL 211 - Prin of Biology*SMI
* BIOL 212 - BIOL 212 - Prin of Biology*SMI
* BIOL 213 - BIOL 213 - Prin of Biology*SMI
* BIOL 323 - BIOL 323 - General Microbiology
* BIOL 334 - BIOL 334 - Plant Taxonomy
* BIOL 341 - BIOL 341 - Genetics
* BIOL 342 - BIOL 342 - Genetics
* BIOL 357 - BIOL 357 - General Ecology
* BIOL 490 - BIOL 490 - Evolution

Creative Inquiry - Students will demonstrate the ability to design (create) and conduct experiments to answer biological questions. This process is based upon the tenets of the scientific method.

* BIOL 211 - BIOL 211 - Prin of Biology*SMI
* BIOL 212 - BIOL 212 - Prin of Biology*SMI

By Year to be assessed and Outcome

Year(s) to be Assessed	Unit Name	Program Outcome Name
2008-2009	Program (CAS) Biology	Breadth of Knowledge
2009-2010	Program (CAS) Biology	Creative Inquiry
2011-2012	Program (CAS) Biology	Integrated Learning through Critical Thinking
2012-2013	Program (CAS) Biology	Community/Civic engagement
2013-2014	Program (CAS) Biology	Breadth of Knowledge
2014-2015	Program (CAS) Biology	Creative Inquiry
2015-2016	Program (CAS) Biology	Program Review - No Assessment
2016-2017	Program (CAS) Biology	Integrated Learning through Critical Thinking
2017-2018	Program (CAS) Biology	Community/Civic engagement