

## **USU General Education in the Life Sciences**

A general education in the life sciences will teach students to:

- Improve their understanding of science as a process and promote their ability to apply scientific methods of investigation.
- Provide a fundamental understanding of the unifying principles of the life sciences.
- Examine the historical contexts of life science, the evolution of the life sciences, their impact on society, the impact of society on the life sciences, and how society and life sciences are linked.
- Help students evaluate the historical, social, and ethical contexts of life science issues.

There are three levels of the curriculum: USU 1350: Integrated Life Sciences; Breadth Life Sciences (BLS) courses, and Depth Life and Physical Sciences (DSC) courses.

**USU 1350** introduces students to a variety of disciplines and covers a range of interdisciplinary topics in the life sciences.

**BLS courses**, unlike USU 1350, emphasize a particular discipline, giving students a broad and balanced perspective of its subfields and its methods. BLS courses, however, still cover a range of topics.

**DSC courses** also emphasize a particular discipline; however, unlike BLS courses, they may focus more narrowly on a particular question, or may confine themselves to ideas within a particular subfield.

Proposals for these courses will be evaluated according to the above criteria as well as the following rubric. The proposal memo should explain in detail—with reference to the syllabus—how the instructor intends to satisfy these criteria and achieve these outcomes. A DSC course will set a higher bar for achieving proficiency than a BLS course or USU 1320. In addition, to meet these goals, smaller courses may emphasize oral communication and information literacy skills more than larger courses.

<b>Integrated Life Sciences Rubric</b>			
<u>Criteria</u>  Students will <b>learn to:</b>	<u>Outcome 1</u>  The student who <b>achieves proficiency</b> will:	<u>Outcome 2</u>  The student who <b>approaches proficiency</b> will:	<u>Outcome 3</u>  The student who <b>lacks proficiency</b> will:
Understand how the enterprise of science works (i.e., erecting testable hypotheses, refining hypotheses, reproducible results, etc.)	Apply the basic structure and methodology of scientific enterprise.	Articulate the basic structure and methodology of scientific enterprise.	Be unable to articulate the basic structure and methodology of scientific enterprise.
Understand key laws, concepts and processes that govern biological systems.	Know the key laws and concepts, and is able to apply them to novice problems.	Know the key laws and concepts and can articulate them.	Not know the key laws and concepts beyond memorization.
Utilize quantitative methods to collect, analyze and interpret scientific information	Interpret, read, understand and explain a graph, table, or a quantitative series of data, and apply that understanding to a problem.	Interpret, read and understand a graph, table, or a quantitative data.	Not be able to interpret, read or understand a graph, table, or quantitative series of data.
Evaluate the credibility of various sources of information about science-related issues.	Assess the credibility of sources of scientific information, and critique source as it applies to a scientific issue.	Assess credible sources of scientific information, and can articulate why they are credible.	Not be able to assess credible sources for scientific information, or unable to determine credibility of sources.
Use written or visual communication to demonstrate knowledge of scientific findings.	Write and/or illustrate knowledge of a scientific idea or concept clearly, comprehensively, and concisely.	Write and/or illustrate knowledge of a scientific idea or concept.	Be unable to convey knowledge.
Examine the relationship of the science learned to societal issues (such as sustainability, etc...)	Apply science concepts and societal issues to the greater question of the course.	Articulate the relationship between science concepts and societal issues.	Be unable to recognize the links between social issues and scientific findings.