Boise State University
Foundational Studies Program Course Application Form
Due to the Foundational Studies Program by August 19, 2011

After the Foundational Studies Program has approved a course, departments will continue through the regular department and college procedures. The approved course should be submitted to the University Curriculum Committee by October 1, 2011.

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Instructions:

1. Complete one form per course.
2. Attach this Foundational Studies Course Application Form to the back of the University Curriculum Committee “Request for Curriculum Action” form. Both forms should be submitted to the Foundational Studies Program Office by August 19, 2011.

Part I. Course Information

Course Number and Title: **BIOL 191: General Biology I**

Type of Foundational Studies Course – (Choose One):
[ ] DLS (Disciplinary Lens – Social Science)
[ ] DLL (Disciplinary Lens – Literature and Humanities)
[ ] DLV (Disciplinary Lens – Visual and Performing Arts)
[ ] DLM (Disciplinary Lens – Mathematics)
[x] DLN (Disciplinary Lens – Natural, Physical, and Applied Sciences)

   Includes Lab: [x] Yes [ ] No

[ ] CID (Communication in the Discipline)
[ ] FF (Finishing Foundations)

Delivery Format(s) – (Check all that apply):
[x] Face to Face
[ ] Fully Online
[ ] Hybrid
[x] Concurrent Enrollment
[ ] Other (briefly describe):
Part II. Syllabus Statement

Boise State's Foundational Studies Program provides undergraduates with a broad-based education that spans the entire university experience. BIOL 191 satisfies 4 credits of the Foundational Studies Program's Disciplinary Lens – Natural, Physical and Applied Science requirements. It supports the following University Learning Outcomes, along with a variety of other course-specific goals.

ULO 8. Apply knowledge and methods characteristic of scientific inquiry to think critically about and solve theoretical and practical problems about physical structures and processes.

BIOL 191: General Biology I is designed to introduce students to the four major conceptual areas of biology – cell biology, genetics, evolution, and ecology. This course helps to achieve the goals of the Foundational Studies Program by focusing on the following course learning outcomes.

After successful completion of this course, you will be able to:

• Use the scientific method as a means to formulate research questions and test hypotheses
• Understand the interactive nature of data acquisition and theory development in the core conceptual areas of biology (cell biology, genetics, evolution and ecology)
• Develop a terminology and fact base so as to be verbally conversant in a range of biological topics
• Use information sources to write a scientific paper in a clear and appropriate form
• Identify and access the impact of modern technology on humans and on our planet

Part III. Design for Accessibility

In the space below, briefly describe plans for providing access to course materials and activities (or equivalent alternatives) to all students in adherence with the Americans with Disabilities Act. Although these plans may vary from instructor to instructor, the descriptions provided below should be representative of intended departmental and instructor practices. (See example statements appended to this form.)

BIOL 191: General Biology I: Whenever available, videos chosen for use in the course will be those that have been close-captioned by the content producer to provide access to students with hearing impairment. PowerPoints used in class lectures, insofar as they contain graphs or other visual representations of content, will be verbally described to students on an as-needed basis. Care will be taken that all projected materials are sufficiently large in font size. We will add textual descriptions accessible by screen readers to images used on the course web site.

In all sections, students will be able to submit assessments in a variety of formats, including written lab write-ups, quizzes, and exams.

Extra time on tests, a quite testing location, and any other appropriate accommodation will be provided to students as needed per the policies of the Disability Resource center.

Laboratory space will be made to accommodate individuals with physical disabilities.
Part IV. Evidence of Quality Course Design

Please use the table below (column headings for this table should not be changed) to provide evidence that the course has been carefully designed and is clearly aligned with Foundational Studies Program desired ULOs. All sections of the course should share similar student learning outcomes. Teaching and Learning Activities and Assessment Methods may vary from instructor to instructor. Please use the table to report representative strategies that may be used. Assessment activities used for reporting to the Foundational Studies Program should be consistent across different sections of the course.

Please see below.
Boise State University  
Foundational Studies Course  
Spring 2014

Course Number and Title: BIOL 191: General Biology I

## Course Design Table

<table>
<thead>
<tr>
<th>Foundation ULO 8 Criteria</th>
<th>Foundation ULO 8 Notions of Exemplary Work</th>
<th>Course Learning Outcomes: By the end of this course, each student should be able to…</th>
<th>Assessment Method: Evidence of Student Learning</th>
<th>Planned Teaching &amp; Learning Activities / Pedagogy</th>
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</thead>
</table>
| ULO 8.1: Process of Inquiry and Analysis in Response to Evidence or Observation | Skillfully and thoroughly formulates a research question or testable hypothesis. Constructs a model to test evidence and observations. Skillfully uses model to either confirm existing explanations or formulate new hypotheses | Use the scientific method as a means to formulate research questions and test hypotheses | Experiment and Research Paper Lecture exams (multiple choice questions, ranging from low-level knowledge-based to high-level concept-based critical thinking questions) Laboratory notebook (organizing lab data, constructing graphs, comparing results, hypothesis development, etc.) | *Laboratory presentation on the scientific method and on writing a scientific paper  
*Peer reviews in laboratory of scientific paper draft  
Relevant ecological material covered in lecture  
Interactive lectures  
Laboratory presentations and procedures |
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<tbody>
<tr>
<td>ULO 8.2: Understanding of knowledge and inquiry</td>
<td>Clearly understand the difference between evidence (data) and explanation (theory). Is able to connect evidence and explanation to build an argument Understands the role of these kinds of arguments in building knowledge in the discipline</td>
<td>Understand the interactive nature of data acquisition and theory development in the core conceptual areas of biology (cell biology, genetics, evolution and ecology)</td>
<td>Lecture exams (multiple choice questions, ranging from low-level knowledge-based to high-level concept-based critical thinking questions) * Laboratory quizzes, composed of a variety of question types (comparisons, graphical analyses, diagram creation, etc.)</td>
<td>Interactive lectures Lecture Demonstrations: student skit of chromosomes in meiosis, student skit of aerobic respiration, student skit of photosynthesis, DNA replication physical model, student oxidation-reduction demo, animations Laboratory presentations and procedures</td>
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<td>ULO 8.3: Communication of Scientific and/or Technological Understandings</td>
<td>Produces clear, accurate, well-organized written and oral communications about scientific and technological understandings</td>
<td>Develop a terminology and fact base so as to be verbally conversant in range of biological topics</td>
<td>Participation in Laboratory Discussion/Debates o controversial topics Participation in Laboratory Genetic Disorders Presentations</td>
<td>Preliminary readings will be made available to students; students will discover other sources Lecture coverage of controversial topics Develop library skills Readings concerning genetic disorders will be provided to students in laboratory; students will compose and give presentations</td>
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<td>Foundation ULO 8 Criteria</td>
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<td>ULO 8.3: Communication of Scientific and/or Technological Understandings</td>
<td>Use of scientific language, representational tools, and notation covered in the course is skillful.</td>
<td>Use information sources to write a scientific paper in a clear and appropriate form</td>
<td>Experimental Research Paper</td>
<td>Laboratory presentation of the scientific method and on writing a scientific paper</td>
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<td>Conference with 1-2 students and the TA and/or Lecture Professor</td>
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<td>Peer reviews in laboratory scientific paper draft</td>
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<td>ULO 8.4: Understanding of interactions of science and technology with humans and environment</td>
<td>Skillfully assesses the potential connection of scientific and/or technological developments to humans and the environment</td>
<td>Identify and assess the impact of modern technology on humans and our planet</td>
<td>Lecture exams (multiple choice questions, ranging from low-level knowledge-based to high-level concept-based critical thinking questions)</td>
<td>Interactive lectures on biotechnology and human impact on the environment.</td>
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<td>Able to articulate possible implications of these relationships</td>
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<td>Laboratory quizzes, composed of a variety of question types (comparisons, graphical analyses, diagram creation, etc.)</td>
<td>Laboratory presentations and procedures</td>
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<td>Laboratory Discussion/Debates on controversial topics</td>
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5-16-2013

Foundational Studies Program Director Signature

Date