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 100: Concepts of Biology

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
[x] 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 100 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 100: Concepts of Biology* is designed to integrate course content, scientific processes and biological theories. 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:

- Analyze a problem using the scientific method, by creating hypotheses based upon observations, and interpreting and evaluating results of experiments
- Apply the idea that science is a process
- Discriminate between hypothesis, evidence and theory
- Summarize the evidence and provide examples of evolutionary changes
- Define the terms and concepts that form the core of biology and how these terms, concepts and principles relate to each other
- Demonstrate how to locate scientific information, collect data, and convey the results to peers
- Utilize experiments and experimental results to summarize biological facts, hypothesis and theories
- Discover needs of all living organisms
- Apply the needs of living organisms to unique situations
- Apply theories of biology to living organisms
- Relate human activities on earth’s environment to biological themes and theories
- Identify and address civic issues and responsibilities
- Develop the knowledge, skills, values and motivation to engage in civic issues

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 100: Concepts of Biology* 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. PowerPoint presentations, whenever possible, will be converted to word format. PowerPoint presentations 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. Extra time on tests, oral examinations, or other accommodations will be provided to students as needed per the policies of the Disability Resource Center.

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 100: Concepts of Biology

## 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>
</tr>
</thead>
<tbody>
<tr>
<td>ULO 8.1: Process of Inquiry and Analysis in Response to Evidence or Observation</td>
<td>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.</td>
<td>Analyze a problem using the scientific method, by creating hypotheses based upon observation, and interpreting and evaluating the results of the experiments. Apply the idea that science is a process.</td>
<td>Oral presentations and written documents (based on a rubric) in which students define a hypothesis and defend a conclusion (fulfilled in laboratory settings) Design an experiment to test the validity of a hypothesis (fulfilled in laboratory settings) Exam questions that meet higher and mid-level thinking skills which analyze data and draw conclusions Lab write ups</td>
<td>Lab experiments and computer simulations View video clips upon which students develop and evaluate hypotheses Analyze and interpret data sets (graphs, charts etc.) in order to address specific hypotheses Group project in which students design and complete an experiment based upon a hypothesis Lectures/Class discussions Think/pair/share Minute paper/Muddiest points</td>
</tr>
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<td>Criteria</td>
<td>Notions of Exemplary Work</td>
<td>Course Learning Outcomes: By the end of this course, each student should be able to…</td>
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<td><strong>ULO 8.2:</strong> Understanding of knowledge and inquiry</td>
<td>Clearly understand the difference between evidence (data) and explanation (theory).</td>
<td>Discriminate between hypothesis, evidence, and theory. Summarize the evidence and provide examples of evolutionary change.</td>
<td>Multiple choice exam questions that meet higher and mid-level thinking skills which analyze data and draw conclusions.</td>
<td>Lecture/class discussions</td>
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<td></td>
<td>Is able to connect evidence and explanation to build an argument.</td>
<td></td>
<td></td>
<td>Think/pair/share</td>
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<td></td>
<td>Understands the role of these kinds of arguments in building knowledge in the discipline.</td>
<td></td>
<td></td>
<td>*Minute paper/Muddies points</td>
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<tr>
<td><strong>ULO 8.3:</strong> Communication of Scientific and/or Technological Understandings</td>
<td>Produces clear, accurate, well-organized written and oral communications about scientific and technological understandings. *Use of scientific language, representational tools, and notation covered in the course is skillful.</td>
<td>Define the terms and concepts that form the core of biology and how these terms, concepts and principles relate to each other. Demonstrate how to locate scientific information, collect data, and convey the results to peers. Utilize experiments and experimental results to summarize biological facts, hypothesis and theories.</td>
<td>Multiple choice exam questions that meet higher and mid-level thinking skills on biological concepts. Oral presentations (based on a rubric) to small groups correctly explaining various terms learned (fulfilled in laboratory settings). Lab reports</td>
<td>Video clips which utilize biological terminology. Group presentations of biological concepts and experimental results. Lectures/Class discussions Think/pair/share Minute paper/Muddiest points</td>
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<td>Handouts</td>
</tr>
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<td>Course Learning Outcomes: By the end of this course, each student should be able to…</td>
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| ULO 8.4: Understanding of interactions of science and technology with humans and environment | Skillfully assesses the potential connection of scientific and/or technological developments to humans and the environment | * Discover needs of all living organisms  
Apply the needs of living organisms to unique situations  
Apply theories of biology to living organisms  
Relate human activities on earth’s environment to biological themes and theories  
Identify and address civic issues and responsibilities  
Develop the knowledge, skills, values and motivation to engage in civic issues | Multiple choice exam questions that meet higher and mid-level thinking skills on biological concepts  
Projects/oral presentations (based on a rubric, fulfilled in laboratory settings)  
Ethical issue discussions and presentations  
Oral and written communication addressing civic issues and responsibilities | Structured academic controversies on ethical issues  
Video clips demonstrating requirements of living organisms  
Assigned readings  
Group project and presentations  
Lectures/Class discussions  
Think/pair/share  
Simulations  
Minute paper/Muddiest points |

5-16-2013

Foundational Studies Program Director Signature | Date