BIO 167. Principles of Biology: Organisms

Instructor: Insert name here
Office Hours: Insert hours here.
Office Location: Insert office number here.
Contact: Insert office telephone number and email address here.

BIO 167. Principles of Biology. 6 hours (3 hours lecture, 3 hours lab), 4 credits.
Introduction to the principles of biology governing the unity and diversity of living organisms, with special emphasis on biological diversity, the physiological mechanisms involved in the coordination of activity in plants and animals, and their ecology and evolution. Laboratory exercises consist of experimental procedures illustrating basic concepts of biology.

No course prerequisites.

This course is a degree program requirement for the Major and the Minor in Biology.

Academic Objectives:
Through lectures, text readings, primary literature reviews, instructor-lead discussions, presentations, laboratory exercises and laboratory reports, students will achieve the following:

- an intrinsic understanding of the phylogenetic unity and evolution of all living organisms from the simplest unicellular prokaryotes to the most advanced multicellular eukaryotes including their ecological role.
- the ability to apply fundamental scientific principles to reasoning.
- an ability to understand, formulate and test a falsifiable hypothesis.
- the development of oral and written communication skills showcasing the acquisition, understanding and development of scientific literacy.
- the ability to gather and analyze data, produce graphs and tables to convey results, and to reach sensible conclusions reflecting experimental outcomes.
- the skills necessary to conduct literature research from library and internet sources and how to distinguish valid online sources from those which are not valid.
- the knowledge of protocol requisite for writing up laboratory reports and papers including correct layout, content, citations and a reference page.
- the ability to synthesize, apply and condense course materials in preparation for quizzes and examinations.

Required Readings*:
Laboratory manual: No purchase required; copies of each lab will be provided for the student for this semester a week in advance of each lab session.

*For additional reading(s), see course instructor.
Grading Policy:
The semester grade will be assessed as follows*:
75% of semester grade will be based on lecture quizzes, two semester examinations and a final exam**.
25% of semester grade will be based on laboratory performance and weekly reports.
*See course instructor for individual point breakdown for quizzes, exams, and lab components.
**A compulsory final exam is administered during finals week at the end of the semester.

Grading Scale:
A (100-93), A- (92-90), B+ (89-87), B (86-83), B- (82-80), C+ (79-77), C (76-73), C- (72-70), D+ (69-67), D (66-60), F (59 and below).
See course instructor for classroom policy and academic integrity statement.
Attendance is required.

Lecture Schedule*:
<table>
<thead>
<tr>
<th>Week 1</th>
<th>date</th>
<th>Origins of life</th>
<th>Chapter 16</th>
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<tbody>
<tr>
<td>Week 2</td>
<td>date</td>
<td>Prokaryotes and ‘protists’; Plants and fungi</td>
<td>Chapters 17-18</td>
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<td>Week 3</td>
<td>date</td>
<td>Invertebrate diversity</td>
<td>Chapter 19</td>
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<td>Week 4</td>
<td>date</td>
<td>Vertebrate diversity; Review</td>
<td>Chapter 20</td>
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<td>Week 5</td>
<td>date</td>
<td>First Exam</td>
<td>Chapters 16-20</td>
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<td>Week 6</td>
<td>date</td>
<td>Plant structure, reproduction, development</td>
<td>Chapters 31</td>
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<td>Week 7</td>
<td>date</td>
<td>Plant nutrition; Plant hormones</td>
<td>Chapters 32-33</td>
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<tr>
<td>Week 8</td>
<td>date</td>
<td>Plant hormones con’t; Animal nutrition</td>
<td>Chapters 33 &amp; 21</td>
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<td>Week 9</td>
<td>date</td>
<td>Spring recess</td>
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<tr>
<td>Week 10</td>
<td>date</td>
<td>Animal respiration; Gas exchange; Review</td>
<td>Chapters 22-23</td>
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<td>Week 11</td>
<td>date</td>
<td>Second Exam</td>
<td>Chapters 21-23, 31-33</td>
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<td>Week 12</td>
<td>date</td>
<td>Animal circulation; Animal excretion</td>
<td>Chapters 24-25</td>
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<td>Week 13</td>
<td>date</td>
<td>Animal hormones; Animal reproduction</td>
<td>Chapters 26-27</td>
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<td>Week 14</td>
<td>date</td>
<td>Nervous systems; Biosphere</td>
<td>Chapters 28, 34</td>
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<td>Week 15</td>
<td>date</td>
<td>Ecosystems; Review</td>
<td>Chapter 37</td>
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<td>Week 16</td>
<td>T.B.A.</td>
<td>Final Exam</td>
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*n.b. Dates subject to change at instructor’s discretion.