BIOL 1615: BIOLOGY I LAB • FALL 2020 • USU EASTERN

Course Details

**Meeting Times** R 1:30-4:20 or F 11:30-2:20, Reeves 231  
**Instructor** Dr. Wayne Hatch, Reeves 264  
**Out of Class contact:** wayne.hatch@usu.edu, 613-5393 ([Zoom through Canvas](#) – days TBD)

Catalog description

Investigative laboratory course with studies focused on genetics, cell, and molecular biology. Designed to be taken concurrently with Biology 1610. Students will apply information learned in Biology 1610 lectures as they ask and answer biological questions while developing the skills and competencies needed for biological research. To receive University Studies Breadth Life Sciences (BLS) credit, students must complete BIOL 1610 and BIOL 1615, and BIOL 1620 and BIOL 1625, or BIOL 3300. The BIOL 1610/BIOL 1615 and BIOL 3300 option for BLS credit is available only to students majoring in Biological Engineering or Environmental Engineering. Prerequisites: BIOL 1610 (may be taken concurrently)

Course Fee

This course has an associated $30 fee. This will be used to purchase supplies for lab including: reagents, glassware, cleaning supplies, and genetic analysis kits.

General Course Objectives

- Become competent in the practice of science  
- Find and review peer reviewed research articles  
- Use research articles in the develop a research proposal  
- Prepare a research proposal

Course Design

Each class will include hands-on experiences designed to either provide real world examples of what is discussed in lecture or will be heavily focused on providing experiences in the basics of scientific research including: finding and reading research articles, developing and testing hypotheses, and collecting and reporting data.

Assessments

Lab Reports

There will be 9 laboratory assignments to be turned in at the beginning of each subsequent lab. These will be graded out of 10 points and further instruction will be given in the lab as to what is required for each lab report. Each lab report will vary depending on the lab activity. There will also be a final research lab
report worth 50 points. This will be discussed in lab but will include the summary of multiple weeks of working on a designed experiment.

**Attendance and Participation**
Students may attend each lab as there will be room for social distancing; however, attendance will only be required for specific labs which are listed on the weekly schedule. To accommodate schedules and to make sure students feel comfortable with social distancing in the lab, students may discuss with Dr. Hatch a time to attend lab outside of the normal schedule. Participation in each lab will be worth 10 points.

**Grading**
- 9 lab reports = 90pts
- 13 lab participations = 130pts
- 1 research report = 50pts

Total = 280pts

**Percentage Grading Scale:**
- 100-93 = A
- 89-87 = B+
- 79-77 = C+
- 69-67 = D+
- below 60 = F
- 92-90 = A-
- 86-83 = B
- 76-73 = C
- 66-63 = D
- 82-80 = B-
- 72-70 = C-
- 62-60 = D-

**Late work**
Late lab reports will be docked 25% of the grade.

**University Policies**
Please see: [http://www.usu.edu/provost/faculty-life/syllabus.cfm](http://www.usu.edu/provost/faculty-life/syllabus.cfm)

**Accommodations for Students with Disabilities**
USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (435-797-2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.
**Weekly Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Lab</th>
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<tbody>
<tr>
<td>1: Aug 31-Sep 4</td>
<td>Lab 1: Making observations and Asking Questions</td>
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<td>2: Sep 7-Sep 11</td>
<td>Lab 2: Proteins (Attendance Required)</td>
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<td>3: Sep 14-18</td>
<td>Lab 3: Introduction to Scientific Papers Reading and Criticizing Research</td>
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<td>4: Sep 21-25</td>
<td>Lab 4: Diffusion and Osmosis (Attendance Required)</td>
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<td>5: Sep 28-Oct 2</td>
<td>Lab 5: Enzymes (Attendance Required)</td>
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<td>7: Oct 12-16</td>
<td>Lab 7: The Research Proposal</td>
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<td>8: Oct 19-23</td>
<td>Lab 8: CRISPR and DNA Electrophoresis (Attendance Required, this lab will continue for several weeks)</td>
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<td>9: Oct 26-30</td>
<td>Continue CRISPR Lab</td>
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<td>10: Nov 2-6</td>
<td>Lab 9: MRSA Case Study</td>
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<td>11: Nov 9-13</td>
<td>Lab 10: Mendelian Genetics (Attendance requested)</td>
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<td>12: Nov 16-20</td>
<td>Lab 11: Epigenetics</td>
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<td>13: Nov 23-27</td>
<td>No Lab – Thanksgiving Holiday</td>
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<td>14: Nov 30-Dec 4</td>
<td>Lab 12: Phylogenetics Work on Proposal</td>
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<td>15: Dec 7-11</td>
<td>Explore Biology Careers</td>
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Disclaimer: The schedule and assignments as part of this syllabus are tentative and subject to change.