Course Name: Animal Biology: Genes, Behavior, Evolution of Life
Course Number: BI 102
Course Credits: four (4) credits
Prerequisites: none
Lectures: twice weekly, 50 minutes, Tues./Thurs., LInC 100, 9:00 a.m. or 10:00 a.m.
Recitation: once weekly, 50 minutes, Weniger 127, days and times vary
Laboratory: once weekly, 110 minutes, Weniger 129, days and times vary

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Course Description
Introduction to how genetics shapes life on Earth, including how understandings of DNA and environmental factors are leading to biotechnological advances. Lectures introduce biological themes and research in the context of current issues in science and society. Hands-on laboratories focus on using organisms and technologies to explore biology and develop skills for lifelong learning. No previous science courses are required, intended for non-biological science majors. This course can be taken alone or in any combination with BI 101 and BI 103. Lec/lab/rec. (Bacc Core Course)

Other General Biology Baccalaureate Core Courses
BI 101, 102, 103, also called General Biology, Gen Bio, or BI 10x, are introductory courses intended to develop knowledge and skills that can support a lifetime of learning biology. BI 101 emphasizes the natural history of biodiversity, ecology, and environmental science. BI 102 introduces topics critical to understanding how life works; the fields of genetics, evolution, and behavior. BI 103 explores the complexity of the human body with anatomy, physiology, and disease. Students may take any single BI 10x course or all three, and up to two of them may be counted for the OSU Baccalaureate Core Biological Science requirement.

Learning Outcomes
Student learning outcomes provide a framework for what occurs in the course and how learning is assessed. BI 102 follows OSU’s baccalaureate core learning outcomes and adds specific focus on learning that can be applied beyond the classroom. Outcomes are matched with more specific objectives that indicate what may be learned in lectures, labs, from readings and assignments.

Baccalaureate Core Learning Outcomes
BI 102 fulfills the Baccalaureate Core requirement for the Biological Science Perspectives category. It does this by introducing content and skills that represent the nature of scientific inquiry and by showing how this knowledge can be used beyond the classroom. Many students taking this course are taking one of their final formal science courses. This course is designed to promote learning and use of science into the future.

Based on OSU’s Baccalaureate Core Science Perspectives outcomes, students in BI 101 shall:

Outcome 1. Recognize and apply concepts and theories of basic biological sciences.

Outcome 2. Apply scientific methodology and demonstrate the ability to draw conclusions based on observation, analysis, and synthesis.

Outcome 3. Demonstrate connections with other subject areas.
BI 102 Learning Outcome Descriptions

BI 102 course outcomes indicate what students are expected to learn while participating in the course and these outcomes are matched with weekly course activities, student products, and assessments. Each learning outcome (1, 2, 3) has sub-outcomes (A, B, C) that specify how the general outcome can be applied in BI 102.

**Outcome 1. Recognize and apply concepts and theories of basic biological sciences.**

Science explores, describes, and explains the natural world. Following in the historical footsteps of scientists, students explore, describe, and explain how science is done and what the biological sciences contribute to our understanding of the natural world.

A. Explore and recognize fundamental concepts, themes, hypotheses, theories, and laws within biology, including the historical development of scientific knowledge, and how knowledge is organized, stored, and shared within various biological disciplines.

B. Describe the scientific worldview, including: that the world is understandable through evidence; that science is iterative and predictive; that scientific knowledge changes over time but remains durable; that the scientific community follows principles including ethics and peer review; and how science is a human endeavor impacted by society and technology in which misconceptions arise and are resolved.

C. Explain and apply science concepts using verbal and visual scientific language, including vocabulary and images, particularly in the context of understanding science in the news, daily life, and popular culture.

**Outcome 2. Apply scientific methodology and demonstrate the ability to draw conclusions based on observation, analysis, and synthesis.**

Scientists rely on critical thinking to gain and contextualize new knowledge. Following similar processes, students observe, analyze, and synthesize to understand scientific inquiry and apply these techniques to their own learning.

A. Observe the natural world, draw on background knowledge, and access additional knowledge from information resources. Supplement this information using varied research methodologies to question, predict, and collect data.

B. Analyze data using logic and reasoning and varied verbal/visual representations. Represent these analyses accurately in verbal and graphical forms.

C. Synthesize information by drawing conclusions and asking new questions. Apply synthesis techniques to develop learning strategies and skills, including study and self-assessment, to be able to learn more about biology and other fields in the pursuit of life-long learning.

**Outcome 3: Demonstrate connections with other subject areas.**

The first two learning outcomes establish a baseline of scientific knowledge and the critical thinking skills necessary to develop new knowledge. This third outcome connects science knowledge and skills to real-world situations students will encounter beyond the classroom in the various disciplines they represent. Gen Bio students come from majors other than the life sciences, and Gen Bio courses are often the last formal science courses students will ever take. This outcome connects K-16 formal science education to the informal education students will encounter as citizens, consumers, employees, family, and community members. Students decide, make, and share what they learn.

A. Decide personal positions on science issues by discerning arguments, identifying perspectives of stakeholders, understanding the knowledge contributions of different fields including different ways of knowing about the world, and weighing these varied ideas in health, consumer, and citizenry situations.

B. Make media or develop a solution that draws on creatively combining knowledge and skills from science and other fields of study. Incorporate problem identification, ideation techniques, planning, and/or description.

C. Share a personal understanding of the impact of science on daily life, from gardening to pets, health, and citizen science, by clearly communicating knowledge and thought processes with peers, friends, family, and/or the community using media.

**Specific Course Objectives**

Course objectives are specific weekly indicators of what students will be doing and learning in each activity and what will be assessed in each product. The course objectives are directly derived from the student outcomes listed above, and course activities, products, and assessments (grading) match these objectives. The list of weekly course objectives is available in Appendix D of the activity manual and at the course website. It can be helpful to use these objectives while studying for the exams.
Critical thinking
Critical thinking skills are woven into the biology journal assignments and weekly course activities. Examples include analyzing the connection between studying and exam performance, selecting from multiple ideas to create media, and analyzing science data and charts. Additional critical thinking activities are added to lecture, including the lecture puzzles.

Course Activities and Student Products
To achieve the baccalaureate core student learning outcomes, a variety of course experiences introduce science knowledge, skills, and connections between disciplines. The following table indicates where outcomes are primarily addressed in the course related to weekly course activities and student products.

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Course Activities</th>
<th>Student Products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Online Previews</td>
<td>Online Readings</td>
</tr>
<tr>
<td></td>
<td>Lectures</td>
<td>Labs</td>
</tr>
<tr>
<td></td>
<td>Recitations</td>
<td>Digital Posts</td>
</tr>
<tr>
<td></td>
<td>Biology Journals</td>
<td>Exams</td>
</tr>
</tbody>
</table>

Course Design
BI 102 is structured to maximize the opportunity for students to master outcomes by providing multiple paths to learning. A variety of learning resources are used to address the broad range of abilities present in a class of 600+ students. BI 102 consists of seven components: weekly on-line previews, assigned on-line readings, lectures, laboratories, recitations, digital posts, and biology journals. These parts are related, but not completely overlapping.

Weekly Online Previews
Each week an online preview newsletter provides an overview of the week ahead, helpful hints, and practice study questions. These are not turned in or graded, but completion has correlated with higher exam grades in previous courses. These previews are at the course website and we recommend reading them at the start of each week and reviewing them before each exam. Online previews primarily address Learning Outcomes 1 and 2 (see above table).

Online Readings
Each week website readings are assigned. These readings can be found in the course schedule, at the course website, and in Appendix A of this manual. The readings introduce new material and also provide more detailed coverage of some of the concepts introduced in other parts of the course. It is recommended that these readings be done at the beginning of the week assigned. If the websites are unavailable the weekend before an exam (computer problem, server error, “404 error” etc.), students are still responsible for that material on the exam. Readings primarily address Learning Outcomes 1 and 3.

Lectures
Lectures meet twice a week, Tuesday and Thursday morning at 9:00 a.m. or 10:00 a.m. in LInC 100 for 50 minutes. Lectures stress concepts, such as biology history, current issues, and basic vocabulary, with occasional course announcements and five extra credit puzzles. Lectures primarily address Learning Outcomes 1 and 3.

Laboratories
Laboratories meet once a week for one hour and 50 minutes in room 129 Weniger Hall. Laboratory activities involve detailed exploration of organisms and ecosystems, with emphasis on students developing both conceptual understandings and skills. The activity manual is available for purchase at the OSU Beaver Store (bookstore). Laboratories represent all three Learning Outcomes.

Recitations
Recitations meet once a week for 50 minutes in room 127 Weniger Hall. Recitation activities are similar to labs, but the shorter time is used to study more specific concepts and skills. The same activity manual is used for both laboratory and recitation. Recitations represent all three Learning Outcomes.
Digital Posts Assignment
Weeks 2 through 8 of the course, students make original digital media of personal science experiences using the criteria outlined in Appendix B of the activity manual. Each week students upload a media piece (seven total) to Canvas and take a brief survey indicating the type of media produced. Week 9 students reflect on the media produced in a digital summary on Canvas. Digital Posts are used to assess student achievement of Learning Outcomes 2 and 3.

Biology Journals Assignment
During weeks 1 through 8 of the course, students make journal entries into three different journals, which are submitted for grading on the dates indicates in the Course Schedule. Some of the assignments are completed in class, others as homework. Journal assignments are detailed in Appendix C of the activity manual, the three journals are Appendix F. Biology Journals are used to assess student achievement of all three Learning Outcomes.

Gen Bio Website
Basic course information is provided in this syllabus and also on the Gen Bio website. Canvas is used to post current scores and links to the Digital Post Assignments. A link to the course website is provided on Canvas. Additional current information such as exam locations, office hours, and biology news stories are available at the website: http://science.oregonstate.edu/genbio

Course Schedule
To determine the breadth of material covered in this course, as well as the timing of classes, assignments, and assessments, refer to the course schedule, front page of the activity manual and at the course website.

Course Content
The following is an outline of topics covered in BI 102 each week. For a more detailed list, refer to the course schedule at the course website: http://www.science.oregonstate.edu/genbio/bi102/

<table>
<thead>
<tr>
<th>Week</th>
<th>Reading/Journal Topics</th>
<th>Lecture Topics</th>
<th>Lab/Recitation Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Science Process; Mendel</td>
<td>Science Process; Mendel</td>
<td>Science Process; Genetics</td>
</tr>
<tr>
<td>2</td>
<td>DNA/RNA; Protein Synthesis</td>
<td>DNA/RNA; Protein Synthesis</td>
<td>Selection; Protein Synthesis</td>
</tr>
<tr>
<td>3</td>
<td>Mutation; Epigenetics</td>
<td>Mutation; Development</td>
<td>Variation; Development</td>
</tr>
<tr>
<td>4</td>
<td>CRISPR</td>
<td>Human Inheritance</td>
<td>Human Inheritance</td>
</tr>
<tr>
<td>5</td>
<td>Genetic Technologies</td>
<td>Genetic Technologies</td>
<td>Genetic Technologies</td>
</tr>
<tr>
<td>6</td>
<td>Darwin; Speciation</td>
<td>Darwin; Speciation</td>
<td>Speciation; Intro. To Evo.</td>
</tr>
<tr>
<td>7</td>
<td>Geologic Time</td>
<td>Geologic Time; Extinctions</td>
<td>Geologic Time; Structures</td>
</tr>
<tr>
<td>8</td>
<td>Evolution News</td>
<td>Tree of Life; Hominan</td>
<td>Dinosaurs; Vert. Evolution</td>
</tr>
<tr>
<td>9</td>
<td>Early Humans; Behaviors</td>
<td>Modern Humans; Behaviors</td>
<td>Mammalian Evolution</td>
</tr>
<tr>
<td>10</td>
<td>Social Behaviors</td>
<td>Social Behaviors</td>
<td>Animal Behaviors</td>
</tr>
</tbody>
</table>

Assessment (Grading)
In order to determine the extent of conceptual understanding and skill mastery an individual has learned in BI 102, exams, journals, and digital posts are used to evaluate student performance. In Appendix D of the activity manual, assessments are matched with specific objectives, so it is possible to determine what will be covered on assignments and exams.

Digital Posts and Digital Summary
Digital posts and the Digital Summary are used to assess science understanding and skills related to constructing media about science. Descriptions of the Digital Post and Digital Summary are available in Appendix B of the activity manual and at the course website. Each week’s digital post has a designated topic and the topic needs to be a component of the post to receive full credit. After uploading each post to Canvas, there is a brief survey on Canvas about that uploaded content. Each uploaded post of original content is worth two possible points, each accompanying survey is worth one point. There is a week to make and upload each digital post and take the accompanying survey prior to the due date/time, no late posts are accepted for credit. There are two weeks to complete the digital summary assignment on Canvas prior to the due date/time, no late digital summaries are accepted for credit.


**Biology Journals**

Journals are primarily used to assess skill outcomes. There are three journals due during the term. The due dates and times are:

<table>
<thead>
<tr>
<th>Biology Journal</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal #1</td>
<td>Monday, January 22</td>
<td>Due by 5:00 p.m.</td>
</tr>
<tr>
<td>Journal #2</td>
<td>Monday, February 12</td>
<td>Due by 5:00 p.m.</td>
</tr>
<tr>
<td>Journal #3</td>
<td>Monday, March 5</td>
<td>Due by 5:00 p.m.</td>
</tr>
</tbody>
</table>

Journals are submitted through the mail-slot in the door of 131 Weniger. Directions for constructing the journals are in Appendix C of the activity manual and on the back cover of Journal #1. Grading information is in Appendix C of the activity manual and written on the inner back cover of each journal. Instructions for submitting late journals are written on the back cover of each journal and later in this syllabus.

**Late Journals**

Journals can be turned in early (starting the previous week). Journals are assemblages of student work to be completed over two to three weeks of time, with minimal work the weekend before a due date. The 5:00 p.m. Monday due date time is the latest a journal can be turned in for full credit. Late journals are any journals turned in past the 5:00 p.m. due date cut-offs. Late journals will receive point penalties because (1) students had extra time to prepare the journals, and (2) late journals are not available for the Monday team grading session and will require extra attention. Late journals can be turned in to the mailslot in 131 Weniger Hall (GTAs are not to accept late journals) in the following time periods with mandatory deductions: (1) After 5:00 p.m. on the due date until noon/12:00 p.m. the next day (typically Tuesday). These late journals will receive a 25% point deduction. (2) After 12:00 p.m. the day after the journal is due until noon/12:00 p.m. the next day (typically Wednesday). These late journals will receive a 50% point deduction. It is not recommended that you slide late journals under the door of room 125A Weniger (Course Coordinator’s office) or to a GTA; journals not turned into the mailslot may not receive any points. **If you are ill, contact Dr. Blair before the journal is due.** The only journals accepted more than two days late would be in the case of a serious, unavoidable conflict (such as military commitments, being personally hospitalized, or death of an immediate family member), and those arrangements are typically made prior to the due date/time or within 24 hours of the due date/time. Arrangements should be made with Dr. Blair as soon as possible in these cases.

**Exams**

Exams are primarily used to assess conceptual outcomes. There are three exams, two during the term, and a final exam during finals week. The dates and times of the exams were posted in the course schedule prior to the start of the term. Midterm exam times are posted at:

http://catalog.oregonstate.edu/CourseDetail.aspx?subjectcode=BI&coursenumber=102

the final exam schedule is posted at (this is a group final exam, in the second table):

http://catalog.oregonstate.edu/ChapterDetail.aspx?key=371#Section3841

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam #1</td>
<td>Monday, January 29</td>
<td>7:00 p.m. to 7:50 p.m.</td>
</tr>
<tr>
<td>Exam #2</td>
<td>Monday, February 19</td>
<td>7:00 p.m. to 7:50 p.m.</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Thursday, March 22</td>
<td>7:30 a.m. to 9:20 a.m.</td>
</tr>
</tbody>
</table>

**Exam Locations**

Exam locations will be announced in laboratory and recitation and posted on the course website the week prior to each exam. They will also be posted on the bulletin boards outside of the laboratory and recitation classrooms (129 and 127 Weniger). Exams are not given in the lecture hall (LInC 100) due to excessive disruption as students finish at different times.

**Exam Procedure**

Bring your OSU Student Identification and number #2 pencils to each exam. Scantrons are provided. **Exam rooms are kept quiet and consistent for all students; you are not able to ask questions or use dictionaries, translators, or electronic devices during the exam.** Exams are written clearly and concisely from the material covered in the course. Exams are multiple choice in format, and last year’s exams are in Appendix E at the back of the activity manual.
Grading (OSU Academic Regulation 19 “Grade Points”)

BI 102 grades are a reflection of what someone knows (conceptual understandings) and can do (skills). Grades are based on mastery of specific course learning objectives (see Appendix D). The total number of points possible in BI 102 are:

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Possible Points</th>
<th>Your Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Exam</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Journal #1</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Journal #2</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Journal #3</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Digital Posts (7 at 3 points each)</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Digital Summary</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Exam #1</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Exam #2</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Final Exam</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td><strong>Preliminary Total</strong></td>
<td><strong>200</strong></td>
<td></td>
</tr>
<tr>
<td>5 Lecture Extra Credit Puzzles</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td><strong>Total Possible Points</strong></td>
<td><strong>205</strong></td>
<td></td>
</tr>
</tbody>
</table>

*On Canvas*, your total earned points appear (including extra credit), so you have a potential of 205 points posted on Canvas. *The final course grade is calculated on a scale of 200 points.*

<table>
<thead>
<tr>
<th>Points</th>
<th>186</th>
<th>180</th>
<th>174</th>
<th>166</th>
<th>160</th>
<th>154</th>
<th>146</th>
<th>140</th>
<th>134</th>
<th>126</th>
<th>120</th>
<th>&lt;120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>A</td>
<td>A-</td>
<td>B+</td>
<td>B</td>
<td>B-</td>
<td>C+</td>
<td>C</td>
<td>C-</td>
<td>D+</td>
<td>D</td>
<td>D-</td>
<td>F</td>
</tr>
<tr>
<td>Grade points</td>
<td>4.0</td>
<td>3.7</td>
<td>3.3</td>
<td>3.0</td>
<td>2.7</td>
<td>2.3</td>
<td>2.0</td>
<td>1.7</td>
<td>1.3</td>
<td>1.0</td>
<td>0.7</td>
<td>0.0</td>
</tr>
</tbody>
</table>

*Only points round up, not percentages, and points only round up once. For example, 139.50 points (or higher) would round up to 140 points, a grade of C-, 139.49 points would be a D+.*

All Gen Bio courses are criterion graded, meaning that if you earn a specific number of points, you are guaranteed the grade indicated in the table above (barring any extreme circumstances, such as university closures, etc). *Gen Bio does not curve*, so if a large number of students master the course material, a large number can earn high grades. Students are not competing with each other for grades. The point cut-offs could be lowered if class data indicates that a particular exam question or journal assignment was too difficult or poorly detailed. This does not occur frequently, due to thorough proofing of exams and assignments.

**S/U Grading (OSU Academic Regulation 18 “Alternative Grading”)**

At least 140 points have to be earned to get a C- in BI 102. If you are not sure whether you should choose the S/U option, consult your advisor. Typically it is most critical to choose the S/U option if a lower grade point average will impact a scholarship or financial aid in some manner. If there is a possibility of getting the unsatisfactory grade, it may be important to weigh the impact of a low grade (D+, D, D-, F) without the S/U option, versus possibly having to re-take a science lab course if a “U” is earned. It may be inadvisable to select the S/U option if you are close to graduation and you need the course credit to graduate. Consult your advisor.

**Extra Credit Lecture Puzzles**

There are five extra credit puzzles given throughout the term in lecture, each worth one point (five points total). These puzzles must be completed and turned in during the lecture in which they are administered to receive credit; there are no make-ups for missed extra credit puzzles. There are two purposes for these puzzles. First, the extra credit puzzles provide an opportunity for exploring a course topic in more depth. Second, these extra credit points may help students who are “stuck” between grades move up to the next grade. For instance, consider two students with a total number of 158 points (a grade of C+), one student with one extra credit point, the other with three extra credit points. The student with one extra credit point will receive the C+ (total of 159 points); the student with three extra credit points will receive a B- (total of 161 points). These are the only extra credit points offered in the course.
Potential Grading Errors
In BI 102, potential grading errors are rare but could occur if the exam scantron was filled in improperly, or a journal was graded incorrectly. For a possible exam scantron error, e-mail your name, lab section number, and concern to Dr. Blair. For a possible journal grading or totaling error, write a brief note explaining the concern, attach it to the journal, and drop the journal with note into the mail slot in the door of 131 Weniger within one week of the journal being returned in class.

Grade Change Requests
The same grading criteria and cut-offs are used for all students taking BI 102. **No additional work or grading opportunities are given to specific students, ensuring every student has an equal opportunity to a fair grade.** In other words, students who request additional work or other special grading considerations before or after the course is completed are always denied these requests. OSU grade changes are intended to be used only for clerical or computational errors, which rarely occur.

Exam conflicts
All exam times were listed in the schedule of classes at the time of registration, prior to the start of the term. If you have scheduled a conflicting class or have a conflicting exam at the same time as a BI 102 exam, you may be able to take the BI 102 exam slightly earlier on the same day, or a different format exam later in the week. Contact Dr. Blair for arrangements during the first two weeks of the term. No exam will be given on a date earlier than the scheduled date.

Requests for Early Final Exams (Academic Regulation 16 “Finals Week”)
Students frequently request early exams due to travel plans or other considerations. Due to the size of the course, the exam dates and times listed in the schedule of classes will be followed. The final exam will be given according to the “Schedule of Group Examinations.” There will be no final exams given prior to the scheduled date.

Missed Exams
**If you are ill, contact Dr. Lesley Blair before the scheduled exam.** Make-up exams are for students with serious, unavoidable conflicts (such as military commitments, being hospitalized, or death of an immediate family member). Make-up exams, in essay format, are given for students with these reasons for missing the standard exam, later the same week as the scheduled exam. With 700+ students, there are unfortunately many emergencies each term, and since grading make-up exams takes approximately one hour each exam, this is only an option for serious, unavoidable conflicts. Arrangements should be made with Dr. Blair as soon as possible.

Missed Lectures
One of the skills stressed in this course is note-taking: the ability to listen, record, and learn. In Gen Bio courses, student exam scores typically positively correlate with regular attendance and personal note-taking. The lecturer will not provide notes, but is available if you would like assistance with note-taking skills (also see section on note-taking in this syllabus). If you miss a lecture, it is recommended that you get notes from classmates in lecture, lab, or recitation. Read through the notes carefully and ask the teaching team if you have any questions over the material. Since this is a criterion-graded course, there is no penalty with associated with sharing notes or other study resources with classmates.

Missed Laboratories and Recitations
Laboratory and recitation activities are important sources of material for the exams and journals. Two components would be missed: material you need to know for the exams, and in some cases material you need stamped to receive credit for the journals. To make up either, you need to attend Graduate Teaching Assistant (GTA) office hours the following week (Monday through Friday). If the material will be on Monday night’s exam or you need to complete the previous week’s stamped journal assignment for a journal due Monday evening, that means you will need to attend the Monday morning office hours. You are not able to attend another lab/recitation section to make up a missed activity, utilize the GTA office hours the following week instead. The only exception is the Campus Conifers recitation, see that activity for more information. Be aware that making up a missed activity will not be the same experience as attending the fully equipped laboratory or recitation that you are registered to attend. For the make-up activity during GTA office hours, it is recommended that you read over the missed activity before attending office hours, to maximize the time available. **There is a maximum of one stamped assignment for each journal that can be made up in office hours; missing more than one class with a stamped assignment for a journal will result in a journal grade deduction.**
Attendance (Academic Regulation 14 “Attendance”)  
While attendance of every BI 102 class is not mandatory, "attendance is one of the most important factors in a student's academic success" (AR 14). Some lab and recitation attendance is necessary to receive full journal credit. For example, there is a maximum of one stamped journal assignment that can be made up in office hours for credit on each journal. Missing more than one activity with a stamped assignment for a journal will result in a grade deduction. At a university it is the choice of the student to attend scheduled lectures and activities, and not the responsibility of the instructor or GTA to accommodate avoidable absences. BI 102 is a 4-credit laboratory course, making it impossible to work ahead on laboratories to complete them earlier in the term. Students are not allowed to attend laboratory or recitation sections they are not enrolled in (see previous “missed laboratories and recitations” section).

Extended Absences  
Oregon State University is on the trimester system, three 10-week terms, which means that each week of class is equivalent to 10% of the course time. Missing a week or more of class time can have a significant impact on overall academic achievement. If you have scheduled an extended avoidable conflict (trip, employment, etc.) that overlaps with exam dates or journal work, the missed points can have a significant negative impact on your course grade. If you have an unavoidable absence (military service, being hospitalized, loss of an immediate family member), that will keep you out of class for a week or more, it is recommended that you (or a family member or friend) contact your academic advisor immediately, and Dr. Blair before or during the absence through e-mail or by phone. With shorter absences it may be possible to catch up in the course. With extended absences, there may be university options to drop or withdraw from the course.

Course and University Policies  
In order to provide an environment conducive to learning, several important policies are followed.

Equal Access to Learning  
We affirm that all students have the right to feel accepted in all course environments and to participate in an academic program free of intimidation, intolerance, or disrespect. Further, we stress that all BI 102 teaching staff and students are responsible for maintaining a positive environment free of any discriminating actions. Harassment of any course participant (student or teacher) will not be tolerated.

Diversity (modified from the College of Health and Human Sciences statement)  
OSU strives to create an affirming climate for all students including underrepresented and marginalized individuals and groups. Diversity encompasses differences in age, color, ethnicity, national origin, gender, physical or mental ability, religion, socioeconomic background, veteran status, sexual orientation, and marginalized groups. Diversity is the synergy, connection, acceptance, and mutual learning fostered by the interaction of different human characteristics.

Religious Holidays  
Oregon State University strives to respect all religious practices. If you have religious holidays that are in conflict with any of the requirements of this class, please contact Dr. Blair immediately so that we can make alternative arrangements prior to the holiday.

Statement Regarding Students with Disabilities  
Accommodations for students with disabilities are determined and approved by Disability Access Services (DAS). If you, as a student, believe you are eligible for accommodations but have not obtained approval please contact DAS immediately at 541-737-4098 or at http://ds.oregonstate.edu. DAS notifies students and faculty members of approved academic accommodations and coordinates implementation of those accommodations. While not required, students and faculty members are encouraged to discuss details of the implementation of individual accommodations. Even if you are not currently working with DAS and feel you would benefit from specific learning accommodations, please contact Dr. Blair before exam or assignment due dates.

Other Important Accommodations  
Students who have any emergency medical or safety information the instructor should know of, or who need special arrangements in the event of evacuation, should contact Dr. Blair immediately.

Student Conduct  
BI 102 follows OSU’s Student Conduct Code (revised Sept. 2017), information can be accessed at: http://studentlife.oregonstate.edu/sites/studentlife.oregonstate.edu/files/final_code_of_student_conduct_updated_1_25_18.pdf
Academic Honesty (Academic Regulation 15 “Honesty in Academic Work”)  
Academic honesty is strongly valued in BI 102. Two types of problems can arise: cheating on exams, and plagiarism on journals or Digital Posts. Neither of these are tolerated, and cases will result in a negative impact on the course grade. Cheating on exams includes copying someone else’s answers, using notes, electronic communication, etc. Plagiarism is claiming someone else’s ideas and/or work as your own, and not giving credit to the source. "Someone else" can be defined as any published or unpublished work (such as an internet site, a book, a magazine, thesis), a fellow student, an instructor, etc. If you are not sure whether any part of your journal or digital post could be considered plagiarized, check with your GTA or Dr. Blair prior to the due date. Additional information on university policies and procedures related to academic dishonesty are available at the course website.

Laboratory and Recitation Group Work  
Learning conceptual material is only one part of the laboratories and recitations. In addition, you have the opportunity to improve your ability to think critically, analyze information, communicate scientific ideas, make logical arguments, and work as part of a team. Group work is a critical (and required) component of the Gen Bio courses. If you desire any assistance in developing skills related to group work, please contact the teaching team.

Laboratory and Recitation Safety Protocols  
In some activities, there are specific safety protocols that need to be followed. Your GTA will explain these protocols at the beginning of the activity, and they are also written in your activity manual and on signs at each appropriate station. If you arrive late to an activity, or have any questions about safety, ask your GTA for assistance. BE SAFE: Follow All Safety Directions.

Organism and Specimen Handling  
All course participants are expected to follow organism handling rules that are presented in activities with live organisms. Due to the longevity of the Gen Bio course series, we also have a collection of preserved natural specimens available. These specimens have primarily been obtained through responsible field and roadkill carcass collection, and have been used through many courses. For protected species or species unavailable through environmentally sound sources, museum-quality replicas are used for plant and animal study. Our goal is to use natural materials for hands-on inquiry when available, but to also follow environmentally responsible practices to minimize impacts on species and habitats.

Handling of Course Materials  
Course materials are university property and used by 900+ students each week. In order to be able to continue using high-quality materials, they need to be handled carefully by everyone. Additionally, any defacing of furniture or equipment will not be tolerated.

Policy on Sustainability  
BI 102 is committed to responsible management of resources through sustainable operating practices. This includes minimizing use of power, paper, chemicals, and other consumables. We strive to acquire materials that can be used repeatedly for many years in the BI 102 courses.

Advertising  
Advertising of products, services, or events is not permitted in the BI 102 classrooms or through postings on Canvas. Any questions about this policy can be directed to Dr. Blair.

Learning Skills  
Doing well in BI 102 (and many other courses) relies on having three well-developed skills: note-taking, studying, and test-taking. Problems with any of these skills can lead to difficulties learning and recalling information. In addition, these skills often need to be fine-tuned to particular subjects. Below are hints for effective techniques related to the BI 102.

Note-taking:  
Educational research suggests that the process of actually taking notes can assist students in learning material, in comparison to just listening or just reading. That is not to say that you can’t learn or recall information without taking notes, it just means that for many people, the process of writing notes strengthens memory of the material. It also, of course, gives you something to study at a later time. Notes are not provided for this course, to stress the importance of the process of note-taking.
Lecture:
- Write down what is said, in addition to what is written on the slide. It may be most effective to paraphrase (put in your own words) what is being said.
- If a lecturer asks a question, make sure you write it down, because this is often a point that is important, and may be an indicator of the type of question asked on the exam.
- In addition to writing down words on slides, it can help to loosely sketch figures presented. This can help jog the memory when studying the material.
- Make note of any textbook page numbers or figure numbers that are mentioned.
- Watch for gaps in your lecture notes. Most humans can concentrate 10-15 minutes and then take a “mental break” before re-concentrating on a task. Check your notes regularly (possibly against someone else’s in the course) to see if there appears to be missing components.
- Share notes! Sometimes someone else will encapsulate concepts in a unique manner that can help you learn the material.
- If you miss lecture for some reason, get notes from one or more classmates, review them, and if you have questions over the notes, see the instructor.

Readings:
- Assigned readings can be effectively reinforced by taking your own notes.
- Try to put concepts into your own words, instead of repeating phrases used in the readings. You will be practicing this in a journal assignment.
- A big advantage of taking notes on the readings, is that when it comes time to study for the exam, all of the concepts from the readings and lecture can be in the same basic note form (eliminating the need to re-read all of the assigned readings).
- One effective technique is to limit yourself to one summary sentence for each paragraph or section of text.
- Don’t forget the pictures! Often if a concept is important, there is an accompanying image.

Studying:
- The first step should always be to keep up with the material much as possible. This includes reading assigned readings before lecture, and reviewing/synthesizing the lecture, lab, recitation, and assigned readings after each class.
- Re-reading notes and activities can be effective ways to study for an exam, however it is often more effective (and efficient) to re-work your material into a different form. This way, it is not as easy to skim over any difficult part of the notes/readings.
- One of the best ways to study basic biology is to write questions (which is why this is a journal assignment). From your lecture notes, activities, and assigned readings, write possible exam questions. The key is to not write the answers. Put your list of questions away for a day or so, and then try to answer them as thoroughly as possible. You will quickly know what you know and don’t know. The real advantage of this technique is that you know you will have to search for the answers if you get the questions wrong, which often means you’ll be careful to understand and learn the material as you write the questions. Added advantages: this can be time-efficient, you’ll probably write several questions that closely match what is actually on the exam, and you can share questions with classmates.
- Remember that learning ultimately means there are changes occurring in your brain. To support this, neurobiological research suggests that it may be important to sleep well, eat well, keep hydrated, and reduce excessive stress as much as possible.

Test-taking:
- Be physically prepared for the exam as much as possible (adequate sleep, food, etc.).
- One of the most effective ways to take a multiple choice exam is to treat it like a “short answer” exam. Read the question and write an answer on the test booklet before looking at the answers. It often takes as much as ten seconds to recall an answer. By taking the time to recall and write your own answer, you will be less likely to be “tricked” by your brain into picking an incorrect answer. If your response is in the possible choices, you can feel more confident in your answer. If not, at least you are aware this may be a missed question and can spend time on other questions.
- After an exam it is key to dissect what you got right and wrong to prepare for the next exam. Look for trends in missed questions. First, and foremost, look to see which types of questions you missed most frequently (from lecture? from the textbook? definitions? thought questions? etc.). You will be doing this for Journal #2.
- Common test-taking problems and solutions: (1) Missing more questions at the beginning of the exam (could be having a difficult time settling in - try focusing closely on the exam by writing
responses to the questions on the exam booklet). (2) Missing more questions in the middle of the exam (may be losing focus - try refueling with a drink or food, and/or take a short mental break to think about something else). (3) Missing more questions at the end of the exam (may be distracted by people leaving - try focusing on the exam by writing responses to questions). (4) Missing blocks of question, consistently missing two or more questions in a row (could still be focusing on the first question in the block, sabotaging the questions that follow – try putting brief notes by the problem question so you can return to it later, and shift focus to the next question).

Teaching Team
The BI 102 teaching team consists of instructors and graduate teaching assistants (GTAs) who work together to produce an organized and accessible course experience for students.

Teaching Goals
Teaching goals influence how course components are structured to achieve student learning outcomes. The overriding teaching goal of BI 102 is for students to learn information and skills that can enrich their lives at OSU and beyond in their future studies, careers, and pursuits. This overriding goal is met by more specific goals intended to utilize teaching resources and methodologies to demonstrate that biology, and science in general, can be relevant and interesting. Each year the BI 102 teaching goals are inventoried and matched with all aspects of the curriculum. BI 102 teaching goals include:

The BI 102 teaching team will:
1. Provide a "keystone" science experience, bridging formal education with future informal learning experiences
2. Build science literacy by expanding on science themes encountered in K-12 courses.
3. Incorporate learning skill development to assist in current university courses as well as a lifetime of learning.
4. Present examples of lifelong science-related projects and activities.
5. Describe how biology is personally encountered on a daily basis at home and in careers.
6. Represent the complexity and nature of science with a breadth of topics, as well as in-depth exploration into individual topics.
7. Provide a student-centered classroom experience, through social learning with others and authentic artifacts.
8. Offer varied teaching and learning formats, differentiated instructional opportunities for diverse learners.
9. Offer an organized course where topics and skills are reinforced.
10. Assist students as needed and generate a welcoming learning environment.
11. Utilize OSU and other local resources to explore biological concepts.
12. Demonstrate the beauty, excitement, and "cool" factor of biology, the aesthetic facets of the discipline.

Teaching Team Responsibilities
The BI 102 teaching team (coordinators and GTAs) are committed to providing an opportunity for all students to master course material. This includes providing an organized curriculum with clear objectives and directions, different forms of instruction (lecture, lab/recitation, readings, projects) to match diverse learning styles, assessment that matches instruction, and assistance as needed.

Teaching Team Office Hours
The teaching team offers over 15 scheduled office hours each week, assisting students with note-taking, studying, and test-taking. BI 102 instructors and GTAs are your best source of assistance for learning the course content, and it is recommended that you seek assistance from the teaching team prior to working with a tutor who would not be as familiar with what is covered in BI 102. Office hours will be announced in the first week's laboratory and recitation, posted on the course website, and posted in the lab rooms and outside of the GTA office (133 Weniger).

Campus Resources
For general assistance with studying, time management, test-taking, and other important skills, OSU's Academic Success Center offers coaching and other useful strategies. Links to this center and other valuable campus resources can be found at the BI 102 course website and also through http://experience.oregonstate.edu.
Contact Us
If you have questions about the course, please do not hesitate to contact us. Both the Canvas and course websites have email links to Lesley Blair and Mark Lavery, your primary contact people if you have questions. **We are always happy to hear from you!**

Teaching Team Contact Information

<table>
<thead>
<tr>
<th>Course Coordinator</th>
<th>Laboratory Coordinator</th>
<th>Graduate Teaching Assistants (GTAs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact if you have any questions about course policies, grading, or course content</td>
<td>Contact if the course coordinator is unavailable</td>
<td>Contact if you have questions about lab, recitation, or other course content</td>
</tr>
<tr>
<td>Dr. Lesley Blair</td>
<td>Mark Lavery</td>
<td>To Be Announced</td>
</tr>
<tr>
<td><a href="mailto:Lesley.Blair@oregonstate.edu">Lesley.Blair@oregonstate.edu</a></td>
<td><a href="mailto:Mark.Lavery@oregonstate.edu">Mark.Lavery@oregonstate.edu</a></td>
<td>To Be Announced</td>
</tr>
<tr>
<td>541-737-2690</td>
<td>541-737-8415</td>
<td>e-mail or phone coordinators with course questions</td>
</tr>
<tr>
<td>125A Weniger Hall</td>
<td>125 Weniger Hall</td>
<td>Office Hours: 133 Weniger Hall</td>
</tr>
</tbody>
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Additional Course Information
The course schedule is available in the front of the course manual and at the course website. Appendices with additional course information are located in the back of the activity manual.

Appendix A: Online Readings
Appendix B: Digital Posts and Digital Summary Assignments
Appendix C: Biology Journal Assignments
Appendix D: BI 102 Course Objectives
Appendix E: BI 102 2017 Exams Appendix
F: Biology Journals