BIOL210001
Boston College Summer Session 2016
Summer 2, June 27 to July 14
Monday, Tuesday, Wednesday, Thursday
12:00-2:15 PM

Instructor: Linda S. Tanini, M.Ed., Ph.D.
BC E-mail: tanini@bc.edu
Phone Number: (617) 784-8264
Office Hours: Before or after class or by appointment

Boston College Mission Statement
Strengthened by more than a century and a half of dedication to academic excellence, Boston College commits itself to the highest standards of teaching and research in undergraduate, graduate and professional programs and to the pursuit of a just society through its own accomplishments, the work of its faculty and staff, and the achievements of its graduates. It seeks both to advance its place among the nation's finest universities and to bring to the company of its distinguished peers and to contemporary society the richness of the Catholic intellectual ideal of a mutually illuminating relationship between religious faith and free intellectual inquiry.

Boston College draws inspiration for its academic societal mission from its distinctive religious tradition. As a Catholic and Jesuit university, it is rooted in a world view that encounters God in all creation and through all human activity, especially in the search for truth in every discipline, in the desire to learn, and in the call to live justly together. In this spirit, the University regards the contribution of different religious traditions and value systems as essential to the fullness of its intellectual life and to the continuous development of its distinctive intellectual heritage.

Course Description
The first semester of a two-semester introductory biology laboratory course designed for non-biology majors preparing for graduate programs in health professions. This course teaches basic laboratory skills, including microscopy, spectrophotometry, analytical electrophoresis and molecular cloning. Students are introduced to the principles of experimental design, data analysis and data interpretation. Inquiry-based activities include experiments in biochemistry, cell physiology and molecular biology.

Canvas
Canvas is the Learning Management System (LMS) at Boston College, designed to help faculty and students share ideas, collaborate on assignments, discuss course readings and materials, submit assignments, and much more - all online. As a Boston College student, you should familiarize yourself with this important tool. For more information and training resources for using Canvas, click here.

Text and Materials:
Required: A bound lab notebook
Course Objective:
1) Learn techniques that are utilized in the field of biology
2) Perform independent research and analyze the data from this research
3) Water and carbon are the chemical basis of life. These chemicals help form the four basic organic molecules that are essential to life
4) The basic structure and function of the prokaryotic and eukaryotic cell. Included in this is how the cell utilizes energy to perform these functions.
5) Describe the basic process of mitosis and meiosis and how they relate to the life cycle of the cell. Students should also be aware to what happens when these processes do not function properly
6) Describe the major principles of genetics
7) Summarize the process in which DNA and proteins are synthesized
8) The student will demonstrate knowledge across cultural settings and will learn the impact of culture, gender, and age in Biology as demonstrated in human impact on the ecosystem.
9) The student will demonstrate ethical knowledge pertaining to social issues as demonstrated by human impact on the ecosystem.

Grading
Grades will be based on 300 points:

<table>
<thead>
<tr>
<th>Practical</th>
<th>The practical will be administered on the last day of class. The exam will test not only the knowledge gained in the class, but also techniques perfected in the course. The practical consist of hands-on questions and a written portion.</th>
<th>100 pts each</th>
<th>100 pts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notebook</td>
<td>Notebook checks will performed throughout the course. Notebooks will be checked on Monday and again on the last day of class.</td>
<td>20 pts- Monday 30 pts- Final Check</td>
<td>70 pts</td>
</tr>
<tr>
<td>Lab Report</td>
<td>A draft of the laboratory report must be submitted to receive full credit on the laboratory report. Lab report drafts that are late will lose 5 point/day until they are turned in. No Late Lab Reports will be accepted.</td>
<td>25 pts-Draft 75 pts- Final Draft</td>
<td>100 pts</td>
</tr>
<tr>
<td>Participation and Attendance</td>
<td>Attendance is required to for all classes. Because of the nature of setting up and preparing the class laboratory, the labs cannot be made up. If you cannot make the class, you need a letter from the dean.</td>
<td>30 pts</td>
<td>30 pts</td>
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</table>

The undergraduate grading system for Summer Session is as follows:
A (4.00), A- (3.67)
B+ (3.33), B (3.00), B- (2.67)
C+ (2.33), C (2.00), C- (1.67)
D+ (1.33), D (1.00), D- (.67)
F (.00)

The graduate grading system for Summer Session is as follows:
A (4.00), A- (3.67)
B+ (3.33), B (3.00)
B- (2.67), passing but does not count toward degree
C (2.00), passing but not for degree credit
F (.00)

All students can access final grades through Agora after the grading deadline each semester. Transcripts are available through the Office of Student Services.
Attendance:
Lab attendance is an important component of learning. Students are expected to attend all classes and to arrive by the beginning of and remain for the entire class period. Because of the nature of setting up and preparing the class laboratory, the labs cannot be made up. If you cannot make the class, you need a letter from the dean. When an occasion occurs that prevents a student from attending class, it is the student’s obligation to inform the instructor of the conflict before the class meets. The student is still expected to meet all assignment deadlines. If a student knows that he or she will be absent on a particular day, the student is responsible for seeing the instructor beforehand. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate’s notes and handouts.

In this class, if you miss class, you cannot make up participation points associated with that class. Additional assignments are not typically allowed as it is expected students come to class and be active members of a course; penalties and correctives are at the discretion of the instructor. If circumstances necessitate excessive absence from class, the student should consider withdrawing from the class. In all cases, students are expected to accept the decision of the instructor or teaching assistant regarding attendance policies specific to the class.

Consistent with our commitment of creating an academic community that is respectful of and welcoming to persons of differing backgrounds, we believe that every reasonable effort should be made to allow members of the university community to observe their religious holidays without jeopardizing the fulfillment of their academic obligations. It is the responsibility of students to review course syllabi as soon as they are distributed and to consult the faculty member promptly regarding any possible conflicts with observed religious holidays. If asked, the student should provide accurate information about the obligations entailed in the observance of that particular holiday. However, it is the responsibility of the student to complete any and all class requirements for days that are missed due to conflicts due to religious holidays. There may be circumstances that necessitate a departure from this policy.

Feel free to contact the WCAS at 617-552-3900 for consultation.

Deadlines
Assignments are due at the beginning of the class period on the specified dates unless otherwise noted on the syllabus. Late assignments will be graded accordingly or not accepted. Arrangements must be made with the instructor for submitting late assignments.

Accommodation and Accessibility
Boston College is committed to providing accommodations to students, faculty, staff and visitors with disabilities. Specific documentation from the appropriate office is required for students seeking accommodation in Summer Session courses. Advanced notice and formal registration with the appropriate office is required to facilitate this process. There are two separate offices at BC that coordinate services for students with disabilities:

- The Connors Family Learning Center (CFLC) coordinates services for students with LD and ADHD.
- The Disabilities Services Office (DSO) coordinates services for all other disabilities.

Find out more about BC’s commitment to accessibility at www.bc.edu/sites/accessibility.

Scholarship and Academic Integrity
Students in Summer Session courses must produce original work and cite references appropriately. Failure to cite references is plagiarism. Academic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on exams or assignments, or submitting the same material or substantially similar material to meet the requirements of more than one course without seeking permission of all instructors concerned. Scholastic misconduct may also involve, but is not necessarily limited to, acts that violate the rights of other students, such as depriving another student of course materials or interfering with another student’s work. Please see the Boston College policy on academic integrity for more information.
Course Assignments

Lab Schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Lab</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>6/27</td>
<td>Properties of water</td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>6/28</td>
<td>Catalase experiment</td>
<td>Collect Data for Lab Report</td>
</tr>
<tr>
<td>Wed</td>
<td>6/29</td>
<td>Microscopy/Onion Root Mitosis</td>
<td></td>
</tr>
<tr>
<td>Thur</td>
<td>6/30</td>
<td>Algae Balls/ Photosynthesis</td>
<td>Devise your own Experiment</td>
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<tr>
<td>Mon</td>
<td>7/4</td>
<td>Independence Day – No Lab</td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>7/5</td>
<td>Supertasters! Sample and digest DNA</td>
<td></td>
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<tr>
<td>Wed</td>
<td>7/6</td>
<td>Supertasters! Gel Electrophoresis</td>
<td>Lab Report Draft Due</td>
</tr>
<tr>
<td>Thur</td>
<td>7/7</td>
<td>ELISA</td>
<td></td>
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<tr>
<td>Mon</td>
<td>7/11</td>
<td>Bacterial Transformation</td>
<td></td>
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<tr>
<td>Tue</td>
<td>7/12</td>
<td>Bacterial Transformation</td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>7/13</td>
<td>DNA Chip Assay</td>
<td></td>
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<tr>
<td>Thur</td>
<td>7/14</td>
<td>Lab Practical</td>
<td>Lab report due</td>
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