Instructor: Linda S. Tanini, M.Ed., Ph.D.
Email: tanini@bc.edu
Office Hours: Before or after class or by appointment
Telephone: (617) 784-8264
Schedule: Monday-Thursday, 8:15 am to 11:30 am
Room: Higgins 263

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 Overview:
Foundational course required for Biology majors that introduces students to living systems at the molecular and cellular level of organization. Topics introduced in this course include basic cellular biochemistry, gene regulation, cellular organization and metabolism, and cell signaling and genetics.

Course Objective:

Students should be able to understand:

1) Biologists ask questions, generate hypotheses, and designs experiments to test the predictions.
2) Water and carbon are the chemical basis of life. These chemicals help form the four basic organic molecules that are essential to life
3) The basic structure and function of the prokaryotic and eukaryotic cell. Included in this is how the cell utilizes energy to perform these functions.
4) 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
5) Describe the major principles of genetics
6) Summarize the process in which DNA and proteins are synthesized
7) The student will demonstrate knowledge across cultural settings and will learn the impact of culture, gender, and age in Biology as demonstrated in cell cycle control.
8) The student will demonstrate ethical knowledge pertaining to social issues as demonstrated by the discover of DNA
**Grading:**
Grades will be based on 400 points:

Two Unit Exams  Unit exams will be administered on Thursday. It will be in the first half of the class with a lecture following the exam. The exam will consist of multiple choice questions and essays based on class presentations and media. You need to be present to complete the tests. If tests are requested late due to medical reasons, you need a physician’s note. 100 pts each 200 pts

Final Exam  Final Exam will be approximately 50% cumulative. The final exam will be multiple choice questions based on class presentation and media. You need to be present to complete the tests. If tests are requested late due to medical reasons, you need a physician’s note. 100 pts 100 pts

Blackboard Quizzes  Online quizzes will be administered weekly through Agora as a formative assessment to help students and myself note any areas that require revisiting prior to the exams. 10 pts each 30 pts

Clicker Questions and Participation  Questions will be asked during the class to help check for understanding in the class. This is a great way for myself to assess how well the students understand the concepts. Two questions per day will RANDOMLY be chosen to be graded. You must be present in class to receive credit for these questions. Having another classmate complete your quiz will be considered a breach of the standards of academic integrity. 70 pts

**Summer Grading System:**
The undergraduate grading system consists of twelve categories: A (4.00), A- (3.67), excellent; B+ (3.33), B (3.00), B- (2.67), good; C+ (2.33), C (2.00), C- (1.67), satisfactory; D+ (1.33), D (1.00), D- (.67), passing but unsatisfactory; F (.00), failure; I (.00), incomplete; F (.00), course dropped without notifying office; W (.00), official withdrawal from course. The graduate grading system is A (4.00), A- (3.67), Excellent; B+ (3.33), B (3.00), good; B- (2.67), C (2.00), passing but not for degree credit; F (.00), failure.

**Grade Reports:**
All students are required to log into the web through Agora to access their semester grades. Students must utilize their BC username and password to log on. If your username or password is not known, the Student Learning and Support Center in the O'Neill Library Computer Center will issue a new one. The SLSC requires a valid picture ID (a BC ID, driver’s license or passport) to obtain your password.

**Scholarship and Academic Integrity:**
It is expected that students will produce original work and cite references appropriately. Failure to reference properly is plagiarism. Scholastic dishonesty includes, but is not necessarily limited to, plagiarism, fabrication, facilitating academic dishonesty, cheating on examinations or assignments, and submitting the same paper or substantially similar papers 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.
In this course, plagiarism or academic dishonesty will result in failure for the course, not just the assignment. Ignorance of plagiarism rules is not a valid excuse for academic dishonesty at the college level.

**Important Policies:**
http://www.bc.edu/content/bc/schools/advstudies/guide/academicinteg.html

**Text and Materials:**
- **Required:** Biological Science, Scott Freeman, 5th Edition
- A web based device to be used in class (ex, iphone, computer, iPad, tablet, etc)

**Written Work:**
Graduate and undergraduate students are expected to prepare professional, polished written work. Written materials must be typed in the format required by your instructor. Strive for a thorough, yet concise style. Cite literature appropriately, using APA, MLA, CLA format per instructor’s decision. Develop your thoughts fully, clearly, logically and specifically. Proofread all materials to ensure the use of proper grammar, punctuation, and spelling. You are encouraged to make use of campus resources for refining writing skills as needed [http://www.bc.edu/libraries/help/tutoring.html].

**Request for Accommodations:**
If you have a disability and will be requesting accommodations for this course, please register with either Dr. Kathy Duggan (dugganka@bc.edu), Associate Director, Connors Family Learning Center (learning disabilities or AHD) or Dean Paulette Durrett, (paulette.durrett@bc.edu), Assistant Dean for students with disabilities, (all other disabilities). Advance notice and appropriate documentation are required for accommodations [http://www.bc.edu/content/bc/libraries/help/tutoring/specialservices.htm]

**Attendance:**
Class 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. 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 to obtain the assignments for that day. If a student misses a class, he or she is responsible for making up the work by obtaining a classmate’s notes and handouts and turning in any assignments due. Furthermore, many instructors give points for participation in class. If you miss class, you cannot make up participation points associated with that class. Types of absences that are not typically excused include weddings, showers, vacations, birthday parties, graduations, etc. Additional assignments, 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 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 Summer Session Office at 617-552-3800 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.

**How to succeed in this course:**
This class contains a great deal of material to get through in a short period of time and we will move at a rapid rate, covering about two text chapters per day and a lab (for those taking the lab). This makes it a VERY difficult course. Although I have added features to help learn the material, you are required to do a majority of the work yourself and assess yourself honestly about your understanding of the material. Some tips for success are listed.

1) Read the material for the class lecture. While reading, form a “conversation with the text.” Periodically, stop to summarize the passage, ask questions, determine what the author wants you to learn, and explore the figures in relation to the text. After lecture, re-read the section to help organize your thoughts. Spending a great deal of time outside of class learning the material will be beneficial to your success.

2) Think and interact during class. Respond to in-class questions using your iClicker and be a full participant in class discussion.

3) Be engaged in class. Please mute or turn off electronic devices. You are welcomed to use your computer to take notes, but do not surf, check email, Facebook, eHarmony, twitter or text during lecture. Doing so certainly prevents you from being present and fully participating during lecture. It is disrupted for surrounding students and is disrespectful.

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<th>Day</th>
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<th>Chapters to Read</th>
<th>Topic and In-Class Work</th>
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<td>Monday</td>
<td>June 22</td>
<td>Chapter 1, 2, 8</td>
<td>• Biology and The Tree of Life</td>
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<td>Tuesday</td>
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<td>Chapter 3, 4</td>
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| Wednesday | June 24     | Chapter 5, 6   | • Introduction to Carbohydrates  
  o Crackers  
  • Lipids, Membranes and the First Cell  
  o Osmosis Demo  
  o Clothes Pins | Canvas Quiz Due  
  At 8 am                              |
| Thursday  | June 25     | Exam 1, Chapt. 7| • The Cell  
  o Bring your text book into class, please  
  o Cell Drawing Activity  
  o Harvard Video | Exam on Chapters 1, 2, 3, 4, 5, 6 and 8 |
| Monday    | June 29     | Chapter 11, 9  | • Cell-Cell Interactions  
  • Cellular respiration and fermentation  
  o Energy Drink Case Study |                                      |
| Tuesday   | June 30     | Chapter 10, 12 | • Photosynthesis  
  o Big Picture  
  • Cell Cycle | Canvas Quiz At 11 pm                                  |
| Wednesday | July 1      | Chapter 13     | • Meiosis  
  o Baby Jane Case Study |                                      |
| Thursday  | July 2      | Exam 2, 14     | • Mendel and the Gene | Exam on Chapters 7, 9, 10, 11, 12 and 13  |
| Monday    | July 6      | Chapter 15,16  | • DNA and the Gene  
  • Eye Color Case Study How Genes Work? |                                      |
| Tuesday   | July 7      | Chapter 17,18, 19 | • Transcription and Translation  
  • Control of Gene Expression in Bacteria  
  • Control of Gene Expression in Eukaryotes  
  o Tube Exercise  
  o Big Picture | Canvas Quiz  
  At 11 pm                              |
| Wednesday | July 8      | Chapter 20, 21 | • Analyzing and Engineering Genes  
  • Genomics |                                      |
| Thursday  | July 9      | Final Exam     | Final Exam 50% on Chapters 14, 15, 16, 17, 18, 19, 20, 21  
  50% on previous chapters |                                      |