# Biology 3310: Cell and Molecular Biology

Spring 2020; Section 001

**Instructor**: Brian Sardella, Ph.D.
Email: bsardella@csustan.edu Office: N270
Office Hours: M 1:00-2:00, or by apt.
**Lecture Time**: TR: 9:30-10:45

**Prerequisites**: BIOL 1150 and CHEM 1110, or equivalents.

**Course Learning Objectives:** For students to understand the structure, function, and basic principles of the major components of the cell and molecular biology, as well as become familiar with experimental evidence that supports the current knowledge of the cell. This course fulfills the Biology Major core requirement.

**Required Materials:** *Essential Cell Biology* by Alberts (5e) ISBN: 9780393680386 with Smartwork5 Access; https://digital.wwnorton.com/ecb5, Student Set #199955.

**Attendance:** Students are expected to attend all lecture sessions. Please arrive in a timely manner. Poor attendance is highly correlated with a less than optimal final grade. Please limit getting up during lecture to emergencies only.

**Homework**: We will be using the Smartwork5 online support software that is packaged with our textbook. Once registered you will be able to access problem sets for each chapter that we cover. Homework sets are due at midnight the night before the exams for the respective chapters but can be completed at any time up to that date. It is highly recommended that you attempt the problem set after reading the associated chapter and attending the corresponding lectures-Do NOT wait and do them on the last day! The grade for homework will be a total of earned points divided by the total possible points yielding a percent score; making possible a 100-point maximum.

**Exams**: There will be four 100-point midterm exams and a cumulative final, worth 100 points, that will attempt to tie the material from the entire semester together and reinforce recurring themes.

******NO MAKEUP EXAMS WILL BE GIVEN*******

You must have a serious and compelling reason that can be documented in order to miss an exam, should this occur, the student and professor will develop a plan of action that best suits the circumstances of the absence.

**Evaluation:**

| | |
|---|---|
| Smartwork5 Problem Sets (% total score) | 100 |
| Four mid-term exams (100 each) | 400 |
| Final Exam | 100 |
| Total Points: | 600 |

**Grading:** A percentage of total points earned will be calculated, and the following scale used: **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**: 59-0

- The CR/NC grading option is not available for this course; only letter grades can be earned.

**Course Drop and Withdrawal Policy**
Withdraw after the census date can only be done with a documented serious and compelling reason. The Department of Biological Sciences chair will not sign a withdrawal form otherwise, regardless of the instructor's view. It is highly recommended that if you wish to drop the class, you do so by the census date! A grade of "incomplete" will not be considered under any circumstance, you may petition for a withdrawal if a serious and compelling reason is given.

**Academic Dishonesty:** There will be a zero-tolerance policy for academic dishonesty, this includes, but is not limited to, cheating, plagiarism, and use of course materials in an inappropriate manner such as posting online. Students are prohibited from making audio or video recordings of lecture or lab without permission through the DRS. Violating this policy will result in a failing grade for the course and referral to the Student Judicial Affairs Office. See University code of conduct for more info: **http://www.csustan.edu/judicial-affairs/student-responsibilities**

**Don't Fall Behind!** This is a difficult course due to the material, and it builds one day after the next. Skipping lectures or putting off studying will result in you getting lost very quickly. If you keep up with the material, you will do much better and enjoy the course much more!!

YOU are responsible for YOUR education, but do not hesitate to get help when needed… Good Luck!

# Tentative Schedule

| Date | Day | Lecture | Ch |
|---|---|---|---|
| 28-Jan | T | Intro, Basic Cell Types and Cell Evolution | 1 |
| 30-Jan | R | Basic Cells Types and Evolution | 1 |
| 4-Feb | T | Chemistry of Cells | 2 |
| 6-Feb | R | Macromolucules | 2 |
| 11-Feb | T | Thermodynamics and Energy | 3 |
| 13-Feb | R | Proteins | 4 |
| 18-Feb | T | Proteins | 4 |
| 20-Feb | R | **EXAM I** | |
| 25-Feb | T | Membranes | 11 |
| 27-Feb | R | Membrane Transport | 12 |
| 3-Mar | T | Membrane Potentials | 12 |
| 5-Mar | R | Glycolysis and Fermentation | 13 |
| 10-Mar | T | Glycolysis and Fermentation | 13 |
| 12-Mar | R | Mitochondria and Respiration | 14 |
| 17-Mar | T | Mitochondria and Respiration | 14 |
| 19-Mar | R | **Exam II** | |
| 24-Mar | T | *Spring Break- No Classes* | |
| 26-Mar | R | | |
| 31-Mar | T | *Cesar Chavez Day-No Class* | |
| 2-Apr | R | Photosynthesis | 14 |
| 7-Apr | T | Photosynthesis | 14 |
| 9-Apr | R | Endomembrane System | 15 |
| 14-Apr | T | Cell Signals | 16 |
| 16-Apr | R | Second Messenger Systems | 16 |
| 21-Apr | T | **Exam III** | |
| 23-Apr | R | The Cytoskeleton | 17 |
| 28-Apr | T | Cell Cycle and Control | 18 |
| 30-Apr | R | Mitosis vs Meiosis | 18 |
| 5-May | T | Apoptosis and Necrosis | 18 |
| 7-May | R | Tissue structure and function | 20 |
| 12-May | T | Junctions and Matrices | 20 |
| 14-May | R | **Exam IV** | |
| | | **Cumulative Final during Finals Week** | |