

BIOLOGY 10: BASIC BIOLOGICAL CONCEPTS

Section 3, Spring 2020

Contact Information:

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Office Hours:

Wednesday 3:30-5:00 p.m. and Thursday 3:00-4:30 p.m., or by appointment (I will talk about biology with you anytime we can catch a minute!).

Course Description: An intensive introductory course for non-majors who will take additional course work in biology or related disciplines, including the allied health sciences. Introduction to the biological sciences with strong emphasis on cellular structure and metabolism, molecular biology and genetics, as well as concepts and principles common to all living systems including ecology and evolution. Lecture three hours. Note: Not open to Biological Sciences majors or students who have received credit for BIO 1 or BIO 2.

Course Format: The semester course includes the graduation equivalent of 3 hours of lecture per week, in the form of 75 minute lectures on Monday and Wednesday, 2:00-3:15 p.m., Sequoia Hall (SQU), room 301.

Downloadable Course Materials:

1. Canvas: 2020 Spring: BIO 10 Basic Biological Concepts – SECTION 03
2. Syllabus, course schedule, PowerPoint slides
3. Outlines/study guides and outside readings as available.

Text: Recommended – not required. *What Is Life? A Guide to Biology*, by Jay Phelan (any edition).

Attendance: Attendance is not required but is very highly recommended. Students falling behind on the course material will find it difficult to make sense of subsequent lectures as the material builds on itself.

Evaluation: All pre-exam practice assignments will be conducted online through Canvas. All exams will be in-class and require a Scantron sheet. The format will be multiple choice.

Four pre-exam practice assignments, at 25 points each, will constitute 20% of your total score for the course. Each pre-exam practice assignment may be completed up to three times until the due date, with the *most recent* score being used. After the due date, answers to the assignments become available for use in your exam preparations.

The other 80% of your total score will come from four exams, at 100 points each. All exams will be limited to class times (75 minutes) unless arrangements are made at the Testing Center.

Make-up exams: Exam's may only be taken on a day other than the scheduled date for serious or compelling reasons.

Testing Center: To be allowed to take your exams at the testing center, you must:

1. Secure Accommodations status from the Testing Center on the second floor of Lassen Hall.
2. Fill out the alternate testing form from the Testing Center and turn it in to me - no later than two days before the actual scheduled exam indicated on this syllabus.

Grading: Final letter grades will be assigned as follows:

Percentage (%)	Grade	Percentage (%)	Grade
>= 93	A	73 – 76	C
90 – 92	A-	70 – 72	C-
87 – 89	B+	67 – 69	D+
83 – 86	B	63 – 66	D
80 – 82	B-	60 – 62	D-
77 – 79	C+	< 60	F

A 90-100%	Outstanding achievement
B 80-89%	Excellent performance; clearly exceeds course requirements
C 70-79%	Meets course requirements
D 60-69%	Passed, but not at average achievement standards
F < 60%	Failure to meet course requirements

** If the class average is relatively low, a curve may be used to determine the letter grades.

Drops or Incompletes: You may drop the course yourself (online) during the first two weeks of class for any reason. Dropping any day after this requires signatures and will be denoted on your transcripts with a “W”. February 17th is the last day to WITHDRAW for serious or compelling reasons that must be documented. This requires a petition to be approved by the Instructor, the Department Chair, and the Dean of the College.

Academic Misconduct: All exams must be taken individually. Any type of communication between students on an exam is considered cheating and will not be tolerated. Getting help from another person during an exam is considered cheating. Students who fail to comply will be given a zero for that exam, the incident will be reported to the Biology Department Chair and the Dean of Students, and the student will receive 0 points for the work. A second offense will result in an "F" grade in the course.

Tips for doing well in the course:

- Study. Well of course you are going to study, but most students don't study enough. On average, you should be spending 2-3 hours studying for every hour of lecture. That's 6-9 hours of studying per week for this class alone.
- Don't study alone. Finding people in the class to study with is extremely beneficial. Ask each other to explain how each process works.
- Ask questions when you aren't clear on a concept. Do this in lecture and/or office hours. Odds are that if you don't understand something, neither do a lot of other people in the class. Since much of the information builds on itself, don't let me move on to another concept until you understand what I just went over.
- Take advantage of office hours. I guarantee that one-on-one in office hours I can make any concept clear to you. This is because in office hours it is much easier to identify where misconceptions lie and what hurdles are preventing you from understanding a concept fully.
- Try to read about the material before it is covered in lecture.
- Stay up on the course material. Putting off learning the material until shortly before the exam is a recipe for not doing well.

TENTATIVE LECTURE SCHEDULE – SPRING 2020

WEEK	DATE	TOPIC	APPLICATION
1	----- <i>Wednesday, January 22</i>	<i>Course Organization</i>	<i>Student Success</i>
2	Monday, January 27 Wednesday, January 29	The Big Picture: Biology on Earth Types of Living Organisms: Taxonomy	The Earth Has Just One Biome An Amazing Diversity of Life
3	Monday, February 3 Wednesday, February 5	Cell Biology Biological Molecules	All Cells are Related Darwin's Small Toolkit
4	Monday, February 10 Wednesday, February 12	Nutrient and Energy Cycles Basic Biochemistry	Human Effects: Good and Bad Molecular Nutrition (No Fads!)
5	<i>Monday, February 17</i> Wednesday, February 19	<i>EXAM 1</i> Reproduction & Chromosomal Inheritance	Multiple Strategies Have Evolved
6	Monday, February 24 Wednesday, February 26	Basic Genetic Mechanisms Sequence Relationships Among Organisms	Mendel and Other Giants Genetics & the Myth of "Race"
7	Monday, March 2 Wednesday, March 4	Genetic Disorders Gender and Sex Determination	Small Changes, Huge Effects Are We Biologically Binary?
8	Monday, March 9 <i>Wednesday, March 11</i>	Gene Transfer and Viral Influences <i>EXAM 2</i>	Constantly Changing Genomes
9	Monday, March 16 Wednesday, March 18	Multicellularity: Diversification of Function Anatomical Relationships in the Taxa	Complexity as a Survival Plan Similarities in Related Groups
10	Monday, March 23 Wednesday, March 25	Homeostasis and the Internal Environment Coordination of Metabolism	What Do the Cells Need? It's All About Communication
11	<i>Monday, March 30 and</i> <i>Wednesday, April 1</i>	<i>SPRING BREAK</i>	
12	Monday, April 6 Wednesday, April 8	Strategies and Coordination of Movement Metabolic Demands of Physical Activity	Should I Stay or Should I Go? The Cost of Leaving
13	<i>Monday, April 13</i> Wednesday, April 15	<i>EXAM 3</i> Ecological Relationships Among Organisms	Can't We All Just Get Along?
14	Monday, April 20 Wednesday, April 22	Microevolution Macroevolution	How Do Species Change? What are the Impacts Over Time?
15	Monday, April 27 Wednesday, April 29	Human Encroachment & Loss of Diversity Common, Rare and Emerging Diseases	Policy Based on Evidence? The Mighty are Brought Low
16	Monday, May 4 Wednesday, May 6	Emerging Treatments Manipulation of the Human Genome	Boundless Human Creativity Skill vs. Common Sense
17	<i>May 11 – May 15</i>	<i>EXAM 4</i>	