

**Biology and the Citizen**  
BIOL 1010 CBE  
Spring 2020

**I. Instructor information**

Ligia Benavides

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**II. Required materials**

All materials you need can be accessed through Canvas, including our free textbook, *Concepts of Biology* by Fowler, Roush & Wise (2013).

**II. Course competencies**

- 1) You will use the process of science to make scientific discoveries.
- 2) You will evaluate the relationship between science and society.
- 3) You will apply knowledge of cellular structure and function to human health.
- 4) You will extend knowledge of genetic information flow, exchange, and storage to human health.
- 5) You will recognize common misconceptions about scientific theories, namely evolution.
- 6) You will describe the interconnectedness among levels of biodiversity.

**III. Criteria for mastery for each course competency**

- 1) Scientific discovery assignments. After receiving training on collecting, analyzing and interpreting data, you will engage in four projects in which you will make scientific discoveries. You will demonstrate mastery when reaching the intermediate level for each rubric criterion for each project. These four assignments together are worth 25% of your total grade (6.25% per assignment).
- 2) Science and society assignments. After receiving training on finding, using and citing reliable and relevant facts, you will engage in four projects in which you will address a biology-related social issue. You will demonstrate mastery when reaching the intermediate level for each rubric criterion for each project. These four assignments together are worth 25% of your total grade (6.25% per assignment).
- 3) Content quizzes. After reading from our textbook and engaging in video lectures, you will test your biology content knowledge by taking quizzes. You will demonstrate mastery when correctly answering 80% of the questions per quiz. There are five units in the course, with an average of three quizzes per unit. These quizzes are worth 50% of your total grade (10% per unit; 3.33% per quiz).

Grading Policy: Final course grades are based on the following scale and will not be rounded up to the nearest whole number: A (94-100%), A- (90-93.9%), B+ (87-89.9%), B (84-86.9%), B- (80-83.9%), C+ (77-79.9%), C (74-76.9%), C- (70-73.9%), D+ (67-69.9%), D (60-66.9%), and F (below 60%).

**IV. Suggested schedule**. This course was designed to allow you to work at your own pace. A successful BIOL 1010 student works through the following suggested schedule, and asks the instructor questions as they come up along the way. If mastery on an assignment is not met, you will receive feedback from the instructor and then repeat the assignment until mastery is met.

<b>Week of</b>	<b>Unit</b>	<b>Resources</b>	<b>Assignments</b>
Jan 6	0.1: What is science & biology	Chapter 1 2 video lectures	Quiz 1
Jan 13	0.2: How to be a well-informed citizen	Tutorial: evaluating sources	Quiz 2: evaluating your own source
Jan 20	1.1 Cellular respiration	Chapters 2, 16.2, 3, 4 1 video lecture	Quiz 3
Jan 27	1.2 Oxygen cycling	Chapters 5, 16.3 1 video lecture	Quiz 4 Air pollution recommendation
Feb 3	1.3 Immune system	Chapter 17 1 video lecture	Quiz 5 Citizen science
Feb 10	2.1 Meiosis & early development	Chapters 6.1, 7 1 video case study	Quiz 6
Feb 17	2.2 Patterns of inheritance	Chapter 8 1 video lecture	Quiz 7
Feb 24	2.3 DNA replication & mitosis	Chapters 6.3, 9.3-9.5, 10.3 1 video case study	Quiz 8 Virtual lab
Mar 9	2.4 Gene expression	Chapters 6.2, 9.1, 9.2, 10.1 1 video case study	Quiz 9 GWAS
Mar 16	3.1 Microevolution	Chapters 11.1-11.3, 11.5 1 video case study	Quiz 10 Antibiotic resistance
Mar 23	3.2 Speciation	Chapter 11.4 1 video case study	Quiz 11
Mar 30	3.3 Tree of life	Chapters 12-15 1 video lecture	Quiz 12 Race and skin color variation
Apr 6	4.1 Population ecology	Chapters 19.1-19.3 1 video lecture	Quiz 13
Apr 13	4.2 Community ecology	Chapter 19.4 1 video lecture	Quiz 14 Public hearing
Dec 20	4.3 Ecosystem ecology	Chapters 20-21 1 video lecture	Quiz 15 Letter to a congressperson
Dec 23	<i>Finals week</i>		Wrap up any outstanding assignments

## **V. Academic Freedom and Professional Responsibilities**

Academic freedom is the right to teach, study, discuss, investigate, discover, create, and publish freely. Academic freedom protects the rights of faculty members in teaching and of students in learning. Freedom in research is fundamental to the advancement of truth. Faculty members are entitled to full freedom in teaching, research, and creative activities, subject to the limitations imposed by professional responsibility. USU Policy 403 further defines academic freedom and professional responsibilities.

## **VI. Academic Integrity - "The Honor System"**

The University expects that students and faculty alike maintain the highest standards of academic honesty. The Code of Policies and Procedures for Students at Utah State University (Student Conduct) addresses academic integrity and honesty and notes the following:

Academic Integrity: Students have a responsibility to promote academic integrity at the University by not participating in or facilitating others' participation in any act of academic dishonesty and by reporting all violations or suspected violations of the Academic Integrity Standard to their instructors.

The Honor Pledge: To enhance the learning environment at Utah State University and to develop student academic integrity, each student agrees to the following Honor Pledge: "I pledge, on my honor, to conduct myself with the foremost level of academic integrity". Violations of the Academic Integrity Standard (academic violations) include, but are not limited to cheating, falsification, and plagiarism

## **VII. Plagiarism**

Plagiarism includes knowingly "representing by paraphrase or direct quotation, the published or unpublished work of another person as one's own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials." The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and referral to psychological counseling.

## **VIII. Students with Disabilities**

USU welcomes students with disabilities. If you have, or suspect you may have, a physical, mental health, or learning disability that may require accommodations in this course, please contact the Disability Resource Center (DRC) as early in the semester as possible (University Inn # 101, 435- 797- 2444, drc@usu.edu). All disability related accommodations must be approved by the DRC. Once approved, the DRC will coordinate with faculty to provide accommodations.

## **IX. Mental Health**

Mental health is critically important for the success of USU students. As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. Utah State University provides free services for students to assist them with addressing these and other concerns. You can learn more about the broad range of confidential mental health services available on campus at Counseling and Psychological Services (CAPS).