BIOL 1010 Biology and the Citizen

Teacher: Jennifer Burbank
Email: jenburbank@msn.com
Office: USU Logan Campus BNR 331
Office Hours: By appointment (primarily T/Th mornings)
**Please contact me using the Canvas messaging system (Inbox)

Course Description

Introduction to biology for non-science majors. Examines key concepts in biology and prepares students to use content knowledge to make sense of the science they encounter in everyday life. Guides students in making informed decisions about topics or issues that are connected to biology and its applications.

Required Text

OpenStax Concepts of Biology. This **text is required**, but there is a free pdf version available for download. If you would prefer a print copy, you can order online or at USU bookstores. The following link provides access to both the downloadable pdf version and ordering options.

OpenStax Concepts of Biology

IDEA Objectives

- Gaining factual knowledge (terminology, classifications, methods, trends)
- Learning fundamental principles, generalizations, or theories
- Learning to apply course material (to improve thinking, problem solving, and decisions)

Canvas Information - Canvas is where course content, grades, and communication will reside for this course.

- http://canvas.usu.edu
  - Your **username** is your **A#**, and your **password** is your global password (the same one you use for Banner or Aggiemail).
- For Canvas, Passwords, or any other computer-related technical support contact the IT Service Desk.
  - 435 797-4357 (797-HELP)
  - http://it.usu.edu
  - servicedesk@usu.edu

Course Requirements

Grades in this course will be based on the following items:

- **Reading/Lecture** - Each week you will be assigned reading as well as view recorded lectures. The reading will include material not discussed in lecture and lectures will include information not found in the text. Doing both the reading and viewing the lectures is essential to your success in this course. Basic notes outlines are available in each module that correspond to the reading/lectures. Please utilize them as note taking tools and supplement them with your own notes.
- **Review Quizzes** - Quizzes are open book/note and typically cover the prior week's information. They are open M-F of quiz weeks, are timed for 20 minutes, and are worth 10 points. Your lowest quiz score is dropped. Quizzes may not be taken late.
- **Assignments** - This category includes quick checks for understanding, unit assignments, a group project case study, and the Citizen Science Assignment. Details and due dates for all assignments are available on Canvas.
- **Unit Exams** - Units 1 and 2 will be assessed using a traditional, proctored exam format consisting of mostly multiple-choice questions. Unit 3 includes a mini-exam taken via Canvas and a take-home portion completed while viewing lectures and submitted via Canvas. Exams must be taken during the available exam window.
- **IMPORTANT EXAM INFORMATION** – This course requires you to physically go to a USU testing center or have a USU certified proctor for Exams 1, 2, and the final exam. Proctorio and other forms of virtual proctoring are **not** used. See the Scope and Sequence below for exam dates. Go to testing.usu.edu/ for information about making a testing center appointment or arranging for a USU certified proctor. If you do not live near a USU testing center, please read the proctor information and act immediately to get a proctor before Exam 1. Be aware that your local testing center may not be open or your proctor may not be available during the entire exam window so plan ahead and plan accordingly. Your failure to secure an appointment or proctor does not grant you an extension on the exam deadline. (The good news is I do allow you to create a “cheat sheet” – specifications will be given – to use on your proctored exams.)
- **Comprehensive Final** - The proctored, comprehensive final exam primarily covers material from Unit 4 with approximately 33% review material from Units 1-3.
- **Discussion Board** - Discussion board prompts will be given throughout the semester. Due dates and participation expectations detailed in Canvas.
- **Extra Credit** - There is a content-specific, applicable extra credit opportunity available with each unit. No additional extra credit is available.
- **Grading Summary:** Your grade is based on quizzes (~10%), exams (~45%), assignments (~40%), and discussion boards (~5%).

Supplemental Instruction:

Supplemental Instruction is available for this course. Please take advantage of this free, valuable resource to help you succeed. Information will follow about dates and times of SI sessions.

SI Leader: Nate Payne Email: natepayne10@gmail.com

Grading Standards: Grades will be calculated on a points earned out of points possible basis. Final grade percentages will not be rounded up. The following grading standards will be used in this class:

Grade	Range
A	100 % to 94.0%
A-	< 94.0 % to 90.0%
B+	< 90.0 % to 87.0%
B	< 87.0 % to 84.0%
B-	< 84.0 % to 80.0%
C+	< 80.0 % to 77.0%
C	< 77.0 % to 74.0%
C-	< 74.0 % to 70.0%
D+	< 70.0 % to 67.0%
D	< 67.0 % to 64.0%
D-	< 64.0 % to 61.0%
F	< 61.0 % to 0.0%

University Policies and Procedures - see online version of syllabus

Scope & Sequence

Module/Week #	Topics	Assigned Reading
1	Intro, Nature & Process of Science, How the Brain Learns Basic Chemistry for Biologists	Ch. 1 pp. 5-23 Ch. 2 pp. 27-40
2	Molecules of Life Cells, Cells, Cells	Ch. 2 pp. 39-50 Ch. 3 pp. 55-75
3	In 'N Out: Cell Membranes Introduction to Energy, ATP, Enzymes	Ch. 3 pp. 77-84 Ch. 5 pp. 130-131, Ch. 4 pp. 91-102

4	Cell Respiration Photosynthesis	Ch. 4 pp. 102-112 Ch. 5 pp. 117-129
5	**Unit 1 Exam – available February 5th-10th** Mitosis – Ready, Set, Divide Cancer: When Cells Go Crazy	 Ch. 9 pp. 202-203 Ch. 6 pp. 135-144
6	Meiosis (not to be confused with mitosis) Mendel and Genetics Part I	Ch. 7 pp. 153-169 Ch. 18 pp. 488-490 Ch. 8 pp. 173-184
7	Genetics Part II DNA: the double helix	Ch. 8 pp. 185-193 Ch. 9 pp. 199-202, 204-208
8	DNA ⇒ RNA ⇒ protein Mutation, viruses, gene regulation	Ch. 9 pp. 210-215 Ch. 9 pp. 208-209, 216-219 Ch. 17 pp. 450-459
	Spring Break March 5-9th	
9	Biotechnology	Ch. 10 pp. 225-244 + supplemental material
10	**Unit 2 Exam – available March 19-24th** Intro to Evolution via Natural Selection	 Ch. 11 pp. 249-254, 258-261
11	Evolution of populations, speciation, classification *Rhagoletis* case study	Ch. 11 pp. 254-257, 261-266; Ch. 12 pp. 275-287 supplement
12	Prokaryotes and Protists Plants and the Fungus Among Us	Ch. 13 pp. 291-310 Ch. 13 pp. 311-318; Ch. 14 pp. 325-349
13	Animal Diversity **Exam 3 (mini) - available April 11-13th**	Ch. 15 pp. 355-394 (selected topics)
14	Population and Community Ecology Energy Flows/Nutrients Cycle	Ch. 19 pp. 499-524 (selected topics) Ch. 20 pp. 529-544
15	Conservation/Biodiversity	Ch. 21 pp. 567-589
Finals Week	**Comprehensive Final Exam – available April 30 – May 4**	