

BIOL 1010 Biology & the Citizen Section 02 - Sp 2018

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 Schedule and Location: Tuesdays/Thursdays, 1:30-2:45 p.m., BNR 102

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** – This is a large, lecture-based course, but I will try to engage and involve you in what we are learning as much as possible. Prior to each class you will be assigned reading. The reading will include material not discussed in lecture and lectures will include information not found in the text. Doing both the reading and attending class is essential to your success in this course. Basic notes outlines are available in each module. 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, the occasional in class assignment, and the Citizen Science Assignment. You will need to be present for in-class activity points. Details and due dates for 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 portion completed during class and submitted via Canvas. Exams must be taken during the available exam window.
- **IMPORTANT EXAM INFORMATION** – This course requires you to physically go to the Logan campus USU testing center for Exam 1, Exam 2, and the final. See the Scope and Sequence below for exam dates. Go to testing.usu.edu/ for information about making a testing center appointment once the exam is available in MATS. I do allow you to create a “cheat sheet” – specifications will be given – to use on your proctored exams.
- **Comprehensive Final** - The comprehensive final exam primarily covers material from Unit 4 with approximately 33% review material from Units 1-3.
- **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%), and assignments (~45%).

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: Parker Webber

Email: parkerwebber33@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

Date	Topics	Assigned Reading
Tues 1/9	Introduction Nature & Process of Science How the Brain Learns	Ch. 1 pp. 5-23 Ch. 16 pp. 431-439
Thurs 1/11	Basic Chemistry for Biologists Introduction to Organic Chemistry	Ch. 2 pp. 27-40
Tues 1/16	Molecules of Life	Ch. 2 pp. 39-50
Thurs 1/18	Cells, Cells, Cells	Ch. 3 pp. 55-75
Tues 1/23	In 'N Out: Cell Membranes	Ch. 3 pp. 77-84
Thurs 1/25	Energy, ATP, Enzymes Introduction to Respiration/Photosynthesis	Ch. 4 pp. 91-102 Ch. 5 pp. 130-131
Tues 1/30	Staying Alive: Cell Respiration	Ch. 4 pp. 102-112
Thurs 2/1	Plants: Green Machines	Ch. 5 pp. 117-129
Tues 2/6	Canvas EXAM 1: Chapters 2-5 (Exam Window February 5-7th)	No Class
Thurs 2/8	Mitosis: Ready, Set, Divide!	Ch. 9 pp. 202-203

	Cancer: When Cells go Crazy	Ch. 6 pp. 135-144
Tues 2/13	Meiosis (not to be confused with mitosis)	Ch. 7 pp. 153-169 Ch. 18 pp. 488-490
Thurs 2/15	Mendel and Genetics Part I	Ch. 8 pp. 173-184
Tues 2/20	Monday Class Schedule	No Class
Thurs 2/22	Genetics Part II DNA: the double helix	Ch. 8 pp. 185-193 Ch. 9 pp. 199-202; 204-208
Tues 2/27	DNA→RNA→protein	Ch. 9 pp. 210-215
Thurs 3/1	Mutation, viruses (selected material), gene regulation	Ch. 9 pp. 208-209; 216-219 Ch. 17 pp. 450-459
	Spring Break March 5-9	
Tues 3/13	Biotech Part I (includes supplemental material)	Ch. 10 pp. 225-235
Thurs 3/15	Biotech Part II (includes supplemental material)	Ch. 10 pp. 235-244
Tues 3/20	Canvas EXAM 2: Chapters 6-10 (Exam Window March 19-21st)	No Class
Thurs 3/22	Diversity, Darwin, & Evidence of Evolution, Natural Selection	Ch. 11 pp. 249-254; 258-261
Tues 3/27	Evolution of populations, speciation	Ch. 11 pp. 254-257; 261-266
Thurs 3/29	Classification <i>Rhagoletis</i> case study project (in class)	Ch. 12 pp. 275-287
Tues 4/3	Prokaryotes and Protists	Ch. 13 pp. 291-310
Thurs 4/5	Plants and the Fungus Among Us	Ch. 13 pp. 311-318 Ch. 14 pp. 325-349
Tues 4/10	Origins of Animal Diversity, Invertebrates	Ch. 15 pp. 355-384
Thurs 4/12	Vertebrates	Ch. 15 pp. 385-394
Tues 4/17	Human Anatomy/Physiology Blitz (in class) **Take Canvas Mini Exam 3 (Chapters 11-12); Field Trip due today!	Ch. 16 pp. 403-431 (selected topics) Yes, Class today!
Thurs 4/19	Population Ecology	Ch. 19 pp. 499-514
Tues 4/24	Community Ecology Energy Flow/Nutrient Cycles	Ch. 19 pp. 514-524 Ch. 20 pp. 529-544
Thurs 4/26	Conservation/Biodiversity	Ch. 21 pp. 567-589 (select)
May 2-4 Exam Window	Final Exam: Ch 19-21 + ~33% older material.	Final must be completed by 5 p.m. Friday May 4 th !