

Syllabus: Biology 11A – Biology for Science Majors I

Course Information

Semester: Fall 2021

Section: 55011

Class Meetings: Lecture and Lab – 100% Online/100% Asynchronous

Instructor: Whitney Menefee

- Email: whitney.menefee@reedleycollege.edu
 - Office: Online via Zoom
 - Office Phone: (559) 494 – 3000 ext. 3257
 - Virtual Office Hours*: Tuesday & Wednesday 9:00 – 11:00AM; Friday 9:00 – 10:00AM
- *Details on how to access virtual office hours posted on Canvas

Course Description

Biology 11A is a 5-unit biology course with 4 lecture hours and 3 lab hours per week. Students will study the chemistry of life, the cell, cellular structure, metabolism, photosynthesis, aerobic and anaerobic respiration, mitosis, meiosis, genetics, molecular biology, and evolution. Genetics will include Mendelian Genetics, Human Genetics, and Biotechnology. This course is intended for Science Majors and for pre-medical, pre-veterinarian, pre-dental, pre-optometry, and pre-pharmacy majors.

Student Learning Outcomes

Upon completion of this course, students will be able to

- analyze the process of meiosis as it relates to biological diversity.
- apply Darwin's theory of natural selection to genetic variation and its effects on environmental adaptation.
- apply the scientific method to design an experiment to test a hypothesis using appropriate controls based on current theories in biology.
- demonstrate how living organisms utilize ATP.
- describe the cell's structural components and their function.
- Understand how the Hardy-Weinberg equation measures genetic change within a population.

Course Objectives

In the process of completing this course, students will

- Use their textbook, laboratory manual, and scientific literature along with the scientific method to design laboratory experiments to test a hypothesis.
- Understand the structure of elements and how elements are bonded to make molecules.
- Understand how the structure of water affects its polarity, cohesion, pH.
- Understand the function and structure of the molecular basis of life; carbohydrates, lipids, proteins, and nucleic acids.
- Identify prokaryotic and eukaryotic cells, organelles, and tissues.
- Diagram the plasma membrane of a cell and list their functions and structural components.
- Describe transport across a membrane in diffusion, osmosis, and active transport.
- List, in order, the parts of glycolysis, Krebs, and the Electron Transport Chain.

- Define the structure and function of a cell-signaling pathway.
- State the cell cycle, mitosis, and its controls.
- Demonstrate proficiency in pedigree analysis
- Calculate phenotypic and genotypic ratios
- Acquire and apply basic DNA technological laboratory skills.
- Understand microbial genetics and nutrition using prokaryote microorganisms and viruses.
- Examine the concepts and techniques associated with embryological development.
- Use critical thinking skills to perform and analyze laboratory experiments.
- Set up an evolutionary chart of representative organisms.
- Cite examples of evolutionary adaptations.
- Use the Hardy-Weinberg theorem in frequency of alleles in a population.
- Examine macroevolution.
- Compare and contrast mass extinctions in evolutionary history.
- Draw out the branches of new phylogenies.
- Compare eukaryotes to prokaryotes and the diversity of organisms on earth.

Course Requirements and Policies

Prerequisites

Chemistry 1A and Math 103 or 3A or 5A or equivalent

Required Course Materials

- Course Materials Bundle* (Online Platform): Biology, Raven, 12th Edition, Connect Access w/Virtual Labs, McGraw-Hill 2020. ISBN: 9781265485559
 *This bundle includes your textbook (digital copy), homework assignments, and virtual lab platform.

Technology Requirements

- All content for this course will be delivered through Canvas and McGraw-Hill Connect. Students must have access to a device with reliable internet access that allows students to retrieve and complete assignments through Canvas and McGraw-Hill Connect.
 - If you need a computer or WiFi hotspot, Reedley College can provide you one or both of these at no cost for the semester! Please contact the IT department at (559) [494-3555](tel:5594943555) to discuss your needs with a member of the IT team and/or arrange to pick up needed equipment.
- Check Canvas and your Reedley College email accounts regularly (recommended multiple times per week) for announcements.

Class Policies

Attendance and Drop Policy

- Students are expected to “attend” class regularly. Attendance will be recorded as the percentage of weekly work completed online.
 - For example: If you submit all of your course work for the week, you get 100% attendance. If you only submit 50% of your course work for the week, you only get 50% attendance for the week.
 - *If you miss 20% or more of this class throughout the semester, it will result in the lowering of your final course letter grade by one letter grade.*

- In order to avoid being dropped from this class, the following tasks must be completed on Canvas by the end of the first week of instruction (8/13/21 @ 11:59PM):
 1. Complete the Syllabus Quiz
 2. Post a profile picture
 3. Participate in the Check-In: Meet & Greet Discussion Board
 4. Complete all tasks in the WEEK 1 Module

Failure to complete ALL the tasks listed above, will result in a student being dropped from this course after the first week of instruction.
- The final drop date for this course is October 8th, 2021.
 - It is the student's responsibility to drop this course if he/she feels necessary. The instructor will NOT drop any students after the first week of instruction.

Late Work Policy

Exams

All exams will be given through Canvas. They will have a scheduled window of three days in which students can take the exam anytime in those three days. *Exams must be taken during their scheduled window. There are no make-ups, no exceptions.*

Assignments/Activities

No late work for any assignments/activities, including but not limited to quizzes, lab reports, and discussion boards, will be accepted for any reason. No exceptions.

Communication Policy

Email/Messaging

The best and most effective way of communicating with me is to email me at <mailto:whitney.menefee@reedleycollege.edu> or by sending me a message in Canvas. Not sure how to send a message in Canvas? Check out this quick guide: [How to send a message in Canvas](#).

- Please allow a 24hr response time! I will always respond to emails and messages within 24 hours, but please allow up to 24 hours. Do not send an email and two hours later send the email again if I haven't responded. If I don't respond within 24 hours, please double check the email address and resend your message then, chances are I didn't receive it!
- Emailing and messaging can be used 24 hours a day, 7 days a week!

Office Hours

This semester I will hold virtual office hours via Zoom (online video conferencing platform). A link to my Zoom room will be provided on Canvas. You can use the link to access my office hours anytime they are scheduled, no appointment needed! If I am already talking with another student, you will be directed to the 'waiting room' until I am finished with that student. This is the same practice that would be followed if office hours were offered in person. If you are unable to log in to the scheduled office hours, but would like to meet with me, please email me and we will arrange an appointment to meet that will fit both our schedules.

College Policies

- "Students at the Reedley College are entitled to the best education that the college can make available to them, and they, their instructors, and their fellow students share responsibility for seeing that their education is honestly attained. Because cheating, plagiarism, and collusion in dishonest activities erode the integrity of the college, each student is expected to exert an entirely honest effort in all academic endeavors. Academic dishonesty in any form is a very

serious offense and will incur serious consequences.” Reedley College Catalog pg. 45

- Please see Disciplinary Procedures in the Student Conduct Standards and Grievance Procedures Handbook available in the Vice-President of Student Services office, or at the link listed below.
- For a comprehensive list of Student Conduct Standards, see: <http://reedleycollege.edu/index.aspx?page=233>
- If you have a verified need for an academic accommodation or materials in alternate media (e.g. Braille, large print, electronic text, etc.) per the Americans with Disabilities Act (ADA) or Section 504 of the Rehabilitation Act, please contact the instructor as soon as possible.

Grading Policy

Final letter grade scale: A = 90% +, B = 89 - 80%, C = 79 - 70%, D = 69 - 60%, F = 59% or less.

TASK	Points	% of Grade	Breakdown
Exams	350	35%	5 exams @ 70 points each
Final Exam	100	10%	1 cumulative final
Quizzes	150	15%	15 quizzes @ 10 points each
Lab Activities	75	7.5%	15 weeks @ 5 points each
Post Lab Reviews	75	7.5%	15 reviews @ 5 points each
Discussion Board Posts	100	10%	20 posts @ 5 points each
LearnSmart Reading assignments	50*	5%	5 units @ 15 points/unit = 75 pts (# of Ch. will vary by unit) *a total of 75 points will be offered, but score will be out of 50. 25 points extra credit available
Writing Assignment	50	5%	1 writing assignment
Presentation	50	5%	1 presentation
Totals	1000	100%	

Grades will be posted on Canvas and will be updated regularly throughout the semester.

Course Exams and Major Assignments

Exams

Exams will be given through Canvas. Each exam may only be accessed one time and will have a time limit (75 minutes, the equivalent of one lecture session). They will have a scheduled window of three days in which students can take the exam anytime in those three days. *Exams must be taken during their scheduled window. There are no make-ups, no exceptions.* There will be 5 midterms and a comprehensive final exam (see the Tentative Schedule and Canvas for exam dates). Each exam will include new material covered in the corresponding unit, **including lecture and lab material**, and will also build on concepts covered in previous units. Exams will consist of multiple-choice, matching, fill in the blank, and short-answer/essay questions. Forming study groups and attending tutoring sessions is highly recommended.

Note on technology: Exams will not be reset or allowed to be made-up due to technology issues (e.g. internet connection lost, computer battery died, ect.). It is the student's responsibility to make sure the correct technology requirements are met to complete the exam, when accessed, in one sitting.

Lecture Quizzes

Quizzes will be completed through Canvas (See Tentative Schedule and Canvas for due dates). Quizzes may only be accessed one time. Quizzes will consist of multiple-choice, true-false, fill-in, and short answer questions and will contain information covered lecture in the unit up to that point. *Quizzes will not be accepted past the due date (will receive a 0) and cannot be made up if missed.*

Note on technology: Quizzes will not be reset or allowed to be made-up due to technology issues (e.g. internet connection lost, computer battery died, ect.). It is the student's responsibility to make sure the correct technology requirements are met to complete the quiz, when accessed, in one sitting.

Lab Activities

Each week will have a lab session that will consist of virtual lab activities and a post-lab review through your McGraw-Hill Connect account. Lab activities and reviews are due at the end of each week, unless otherwise informed by the instructor. No late lab assignments will be accepted. *For detailed instructions on how to access and complete lab activities, see Canvas.*

LearnSmart Reading

Every week will have associated LearnSmart Reading assignments through your McGraw-Hill Connect account. These assignments (and the eBook) can be accessed through Canvas. LearnSmart Reading assignments will be due at the end of week. See Canvas for exact reading assignments and due dates.

- **Extra credit.** Extra credit can be earned by completing all LearnSmart Reading assignments. Throughout the semester, there will be a total of 75 points offered, but will only be graded out of 50 points. This allows up to 25 extra credit points (or 2.5%). *There will be no other extra credit offered in this course.*

Discussion Boards

Most weeks will require discussion board posts as part of the interactive nature of this class. Topics will relate to material covered for that week. All discussion board topics and due dates can be found on Canvas. No late posts will be accepted.

- Note on discussion board/online etiquette: All students are expected to be respectful when posting and replying to their peer's posts. The purpose of these discussions is to facilitate peer-to-peer learning in a safe and respectful environment. Students who make disrespectful and/or inappropriate posts/comments in the discussion board forums will be subject to Reedley College Disciplinary Procedures (see link above under the College Policy section).

Writing Assignment

You are required to complete one writing assignment in this course to fulfill the writing requirement for a GE course; the word count of this assignment must be over 1000 words to pass this class. Detailed instructions (including topics, formatting requirements, rubrics, due dates, etc.) for the assignment are available on Canvas. You will submit a draft of your report for peer feedback. The instructor will grade the final version of your assignment. Note: All drafts and final reports must be submitted to TurnItIn (on Canvas) for the peer feedback and grading process. *If you do not fulfill the requirements of this writing assignment in its entirety, you cannot pass Biol 11A.*

- **Plagiarism Detection:** The campus subscribes to TurnItIn plagiarism prevention service through Canvas, and you will need to submit written assignments to TurnItIn. Your work will be used for plagiarism detection and for no other purpose. TurnItIn Originality Reports will be available for your viewing.

Presentation

Each student will be responsible for putting together and giving an oral presentation in class based on the topic of their writing assignment. Detailed instructions (including topics, formatting requirements, rubrics, due dates, ect.) for the assignment are available on Canvas. *If you do not*

fulfill the requirements of this presentation in its entirety and complete your oral presentation in class, you cannot pass Biol 11A.

Participation Standards

Consider the following statement as a general guideline for study expectations for this class: “It is usually expected that students will spend approximately 2-3 hours of study time outside of class for every one hour in class. Since this is a 5-unit class (7 hrs./week), you should expect to study an average of at least 14-21 hours outside of class each week. Some students may need more outside study time and some less. “

Subject to Change Statement

This syllabus and tentative schedule are subject to change with notification.

Tentative Course Schedule

DATES	Lecture/Lab Topics
Week 1	Course Intro The Science of Biology
Week 2	Biological Molecules
Week 3	The Cell
Week 4	Exam #1 Enzymes
Week 5	Cellular Respiration
Week 6	Photosynthesis
Week 7	Exam #2 Cell Communication
Week 8	Mitosis & Meiosis
Week 9	Genetics
Week 10	Exam #3 DNA Structure
Week 11	Molecular Biology of Genes
Week 12	Gene Expression Biotechnology
Week 13	Exam #4 Development
Week 14	Population Genetics
Week 15	Evolution
Week 16	Systematics
Week 17	Exam #5 Final Student Presentations
Week 18	Final Exam - Cumulative

*A more detailed weekly schedule of assignments and specific readings can be found on Canvas.

Other Important Dates:

Final Drop Date to avoid “W”: August 13th

Final Drop Date (with “W”): October 8th