

BIOL 1306-Principles of Biology I-Fall 2021

BIOL 1106-Principles of Biology I Lab-Fall 2021

Instructor: Mrs. Kaleigh Walker

Email: kaleigh.walker@masonisd.net Phone: 325-347-1122 ext 265

Learning Objectives and Nature of the Course:

*An introduction to the unifying principles of biology with emphasis on biological chemistry, energetics and homeostasis, cell structure and function, gene expression, and patterns of inheritance. Laboratory is designed to reinforce lecture topics and develop analytical skills essential to the practice of biology. Recommended as a second semester course of a two-course sequence for students majoring in biological sciences or related disciplines. Not intended for non-majors. **It is not recommended for non-majors to fulfill a general education requirement for a laboratory course.***

Course Materials:

- Lecture (required): Urry, Cain, Wasserman, Minorsky & Reece. (2017). *Campbell Biology in Focus*. (2nd AP ed.).
- MasteringBiology Online and Online Textbook Access
- Composition Notebook or Notebook paper
- 2” Binder
- Pens/pencil

Course Idea Objectives:

- gain factual knowledge (terminology, classifications, methods, trends)
- learn fundamental principles and theories
- learn to apply course material (to improve thinking, problem solving, and decisions)
- acquire skills in working with others as a member of a team

A successful student in Principles of Biology should be able to achieve the following course and state core related learning outcomes:

- describe, explain, and predict natural phenomena using the scientific method. CT1, EQS1, EQS2 - Assessment = in class activities, lecture exams, embedded test questions, lab quizzes, and lab activities/reports
- design an experiment and complete a written description of their design, collaboratively conduct the experiment and analyze data generated to answer some component of a given causal question and defend the reasoning for conclusions drawn in the form of a laboratory report. CS1 - Assessment = in class activities, lab quizzes, and lab activities/reports
- collect and analyze data to evaluate relevant biological/ecological scenarios/problems (i.e. apply information you have learned). EQS1 - Assessment = In class activities, lecture exams, embedded test questions, lab quizzes, and lab activities/reports

- Work effectively with others to support and accomplish a shared goal = CS1, TW2 - Assessment = in class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports
- connect what she/he is learning to her/his own field (i.e. to make biology relevant to your own academic endeavors). Assessment = in class activities, lecture exams, embedded test questions, lab practical exams, and lab activities/reports

For state and accreditation purposes this course will assess your ability to:

- CT1 - Gather, analyze, evaluate, and synthesize information relevant to a question or issue
- CS2 - Develop, interpret, and express ideas through effective written communication
- EQS1 - Manipulate and analyze numerical data and arrive at an informed conclusion
- EQS2 - Manipulate and analyze observable facts and arrive at an informed conclusion
- TW2 - Work effectively with others to support and accomplish a shared goal

To achieve these course objectives and help maximize your learning, it is vital that you attend class, come prepared, and study the material every day (see student responsibilities.)

Methods of Assessing Objectives (what you need to study): READ ME!!

The student learning outcomes will be assessed by exams, lecture activities, other out of class assignments and the laboratory. The learning objectives will be posted on the lecture presentations and on Google Classroom. You should use the objectives along with the notes and activities/experiments from lecture AND lab to help you study.

Grading:

Component	Maximum Percents	Grading Scale
Unit Binder Work, Lab Assignments, Projects	10%	A = 90-100%
Exams, Lab Quizzes, Topic Quizzes	90%	B = 80-89%
		C = 70-79%
		D = 60-69%
		F = 60%

Exams: Questions typically require interpretation of data and application of concepts rather than rote memory. While emphasis will be placed on material specifically discussed in lectures, exams can also include questions covered in other assigned materials, readings and lab. Please refer to the objectives displayed in lecture to help you study. Questions can be any of the following types: objective questions (multiple choice), fill in the blank, matching, short answer, essay, and application based problem sets.

Please Note: I do not curve exams or final grades nor are they negotiable. All students will be treated equally and fairly, and all grades will be calculated in the same way, regardless of extenuating circumstances or any reason not related to your actual performance in the course. However much I may sympathize with your personal circumstances, I never consider them to be a

basis for grade assignments. The classwork/homework/quizzes serve as an extremely generous, built-in curve. I strongly encourage you to take advantage of the activity points when they become available because once assigned they cannot be made up. Quizzes can include information from previous homework, labs, readings, or lectures and help me determine how students are progressing. Therefore you should always attend class, keep up with your work, and strive to do your best, so that you may earn the grade you want. It is your responsibility to keep up with your grade. **LATE WORK:** 15% off for 1 day late and detention. It is up to my discretion if I accept it at all after that. You will be put on the tutorial list for missing/late work.

Lecture: A typical class meeting will combine mini-lectures, discussions, group activities, multimedia presentations, and other demonstrations and activities to give you an opportunity to learn biological concepts in as active a manner as possible. Each segment of the course is structured around one or more conceptual units that can be interpreted or solved by applying selected biological concepts. As a member of the class you are also invited to:

- Ask questions, no matter how naive they seem to you. I will do my best to offer you a satisfactory answer. The only stupid question is one that isn't asked.
- Ask for help and/or clarification. Don't suffer in silence. I can't help you learn if I don't know you're confused or if my instructions are unclear.
- Use your group members as study partners! Review exam review questions or notes together. Group learning can be powerful and is often beneficial in a course like biology.

Laboratory: This portion of the course offers you the opportunity to explore and apply concepts to answer the research questions. Success in the laboratory involves teamwork in designing and conducting experiments, performing pre-lab and lab activities, and report writing. In addition, you will conduct activities designed to develop and improve critical thinking and problem solving skills related to the topics discussed in lectures.

Student Responsibilities:

Attendance: Missed lecture and/or lab activities cannot be made up, however they may be posted online/shared if you have an excused/extracurricular absence. Please inform me ahead of time if you will need to be absent for any reason so that I can assign alternative lab investigations/assessments. **What do you do if you miss a lecture activity or homework assignment?** Please keep up with the online tools available if a class is missed (i.e. Google Classroom/Sites/Email). If an assignment is mentioned/completed in class, and you are not present, it is still due on the date initially assigned. Absence is not an excuse for late work. No last minute offers of extra-credit are made in this course. Always attend class and strive to do your best, so that YOU may EARN the grade you want. It is your responsibility to keep up with your progress. Don't worry, I will help you, if you just ask for clarification!

Class Preparation, Google Sites, and Email: Much of your learning about biology must take place outside of the formal class meetings. You should be a frequent visitor to the course Google Classroom site. All of the material you need to prepare for class is available from the site: reading assignments for each unit, lecture presentations, homework assignments, in-class activity handouts, and links to outside review materials. Since class announcements will be routinely distributed via email and Classroom, you will need to regularly check your Gmail account and our course site (daily). Be sure to check your ASU email daily also.

Academic Honesty and the ASU Honor Code: Angelo State University expects its students to maintain complete honesty and integrity in their academic pursuits. Students are responsible for

understanding the Academic Honor Code and the ASU policies on academic dishonesty, which is contained in both print and web versions of the Student Handbook. The penalty for ANY act of dishonesty in this class, including any form of cheating or plagiarism: 1) is a grade of ZERO on the assignment and, 2) disciplinary action as warranted in accordance with university guidelines. Please do NOT jeopardize your career; it's not worth it.

Electronic devices such as cell phones, pagers, iPods, etc. are not allowed to operate (i.e. ring/play/talk/text) during formal lecture. You will also NOT be allowed to carry them during quizzes or practical exams either. No exceptions. They will be placed in the shoe organizer during formal lecture/lab to prevent temptation during that time. They may be used to snap images for personal study at times. However, your text and reference materials have great images provided.

Other Reminders

ASSIGNMENTS:

All formal written assignments or projects must be typed, 12 point font, Times New Roman, double-spaced, 1 inch margins with your name, course, period, and date at the top left corner with a centered title.

LAB RULES & EXPECTATIONS:

My expectations of you are high! That is because ASU/MHS/I expect excellence and know you can achieve it. Be respectful, have positive attitudes, be punctual, follow dress code, no sleeping in class, no cell phones on, be responsible, keep all work, come to class prepared, and use technology appropriately.

BIO 1306/1106 Fall 2021 Tentative Schedule

Week/Date (approx.)	Unit Concepts
Aug 18	Introduction: Evolution & Foundations of Biology Science and Evolution: Scientific Method, Def. of Science, Lab Safety
Aug 23	Introduction: Evolution & Foundations of Biology Science and Evolution: Scientific Method, Def. of Science, Lab Safety
Aug 30	Chemical Context of Life/Carbon & The Molecular Diversity of Life
Sept 6	A Tour of The Cell/Membrane Transport
Sept 13	A Tour of The Cell/Membrane Transport
Sept 20	Homeostasis, Signaling, Muscle Contraction
Sept 27	Homeostasis, Signaling, Muscle Contraction
Oct 4	Metabolism, Respiration, Photosynthesis
Oct 11	Metabolism, Respiration, Photosynthesis
Oct 18	Cell Signaling and Plant Responses
Oct 25	Cell Signaling and Plant Responses
Nov 1	Cell Cycle: Mitosis, Meiosis, Animal Reproduction
Nov 8	Cell Cycle: Mitosis, Meiosis, Animal Reproduction
Nov 15	Mendel, The Gene Idea, and Inheritance
Nov 25	(THANKSGIVING BREAK)
Dec 29	Mendel, The Gene Idea, and Inheritance
Dec 6	FINAL EXAMS WEEK

BIOL 1307-Principles of Biology II-Spring 2021

BIOL 1107-Principles of Biology II Lab - Spring 2021

Instructor: Mrs. Kaleigh Walker

Email: kaleigh.walker@masonisd.net

Phone: 325-347-1122 ext 265

Learning Objectives and Nature of the Course: *An introduction to the unifying principles of biology with emphasis on biological diversity, evolution, and ecology. Laboratory is designed to reinforce lecture topics and develop analytical skills essential to the practice of biology. Recommended as a first semester course of a two-course sequence for students majoring in biological sciences or related disciplines. Not intended for non-majors. **It is not recommended for non-majors to fulfill a general education requirement for a laboratory course.***

Course Materials:

- Lecture (required): Urry, Cain, Wasserman, Minorsky & Reece. (2017). *Campbell Biology in Focus*. (2nd AP ed.).
- MasteringBiology Online and Online Textbook Access
- Composition Notebook: 1 for lecture activities (optional)
- 2” Binder
- Pens/pencil

Course Idea Objectives:

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Please Note: I do not curve exams or final grades nor are they negotiable. All students will be treated equally and fairly, and all grades will be calculated in the same way, regardless of extenuating circumstances or any reason not related to your actual performance in the course. However much I may sympathize with your personal circumstances, I never consider them to be a basis for grade assignments. The classwork/homework/quizzes serve as an extremely generous, built-in curve. I strongly encourage you to take advantage of the activity points when they become available because once assigned they cannot be made up. Quizzes can include information from previous homework, labs, readings, or lectures and help me determine how students are progressing. Therefore you should always attend class, keep up with your work, and strive to do your best, so that you may earn the grade you want. It is your responsibility to keep up with your grade. LATE WORK: 15% off for 1 day late and detention. It is up to my discretion if I accept it at all after that. You will be put on the tutorial list for missing/late work.

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BIOL 1307/BIOL 1107 Spring 2022 Tentative Schedule

Week/Date	Unit Concepts
Jan	Introduction: Evolution & Foundations of Biology Origins and the History of Life
Jan	Introduction: Evolution & Foundations of Biology Evolution of Populations and Phylogeny
Jan	Introduction: Evolution & Foundations of Biology Evolution of Populations and Phylogeny
Feb	Classification and Diversification of Species
Feb	Classification and Diversification of Species
Feb	Classification and Diversification of Species
Feb	Classification and Diversification of Species
Mar	Animal Behavior
Mar	SPRING BREAK
Mar	Animal Behavior
Mar	Population Ecology
Apr	Population Ecology
Apr	Species Interactions

Apr	Species Interactions
Apr	Ecosystems and Energy
May	Ecosystems and Energy
May	FINAL EXAMS WEEK