



AP Biology Instructional Plan

Jessica Smith

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Course Overview

This AP Biology course provides a strong foundation in college-level biology, built upon the four Big Ideas, Enduring Understandings, and Science Practices. Biology is fundamentally about inquiry. This course emphasizes developing critical thinking skills and the process of scientific inquiry. Beyond just memorizing content, students will learn to analyze and interpret data and to communicate scientific information effectively. By the end of the course, students will recognize how biology integrates with other sciences, understand humanity's place within the natural world, and become informed and responsible citizens capable of navigating biological issues that impact their lives.

Advanced Placement Biology Big Ideas

This course in AP Biology is structured around the four big ideas and the six scientific practices detailed in the course and exam description guide.

Big Idea 1: Evolution, primarily driven by natural selection, is the process of genetic change in populations over time, leading to the diversity and unity of life.

Big Idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis.

Big Idea 3: Living systems store, retrieve, transmit and respond to information essential to life processes.

Big Idea 4: Biological systems interact and these systems and their interactions possess complex properties.

The Six Science Practices

Concept Explanation: Students will explain biological concepts, processes, and models presented in written format.

Visual Representation: Students will analyze visual representations of biological concepts and processes.

Questions and Methods: Students will determine scientific questions and methods by identifying or posing a testable question.

Representing and Describing Data: Students will represent and describe data using graphs.

Statistical Tests and Data Analysis: Students will perform statistical tests and mathematical calculations to analyze and interpret data.

Argumentation: Students will make scientific claims and justify arguments using evidence.

Tutorials

Morning: Monday, Wednesday, and Thursday. **After school** I will have tutorials on Tuesday and Thursday. **Lunch tutorials** will be by appointment.

Units of Instruction

First Semester	Second Semester
Unit 1 - Chemistry of Life	Unit 5 - Heredity
Unit 2 - Cell Structure and Function	Unit 6 - Gene Expression and Regulation
Unit 3 - Cellular Energetics	Unit 7 - Natural Selection
Unit 4 - Cell Communication and Cell Cycle	Unit 8 - Ecology



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Grade Breakdown

According to Midland ISD Grading Policy:

Major Assignments- 60% and **Minor Assignments-** 40% **Semester Exams-** 15% of Semester grade

Tests

Tests are designed to prepare you to take the national exam. Each test will have multiple choice questions and FRQs. Each part will count for 50% of the test.

Redo Policy

There will be test corrections for every test. You will be required to do test corrections during lunch or tutorials. They must be completed within five school days of taking the test. The week following a test, I will be available every day for lunch and most mornings as well to give students an opportunity to complete test corrections.

Materials Needed

3 ring 1.5 inch binder, pencils/pens, loose leaf paper, chromebook

Instructional Resources

The textbook we will be using this year is *Biology for the AP[®] Course* by Morris, Castignetti, Lepri, and Relyea. A digital copy will be available for all students.

Classroom Expectations

The classroom is a respectful, safe, and collaborative learning environment where students are expected to be prepared, participate actively, and respect others. The goal is academic success and personal growth for all.

Contact

If you have any questions or concerns please contact me at jessica.smith@midlandisd.net. My conference is 3:20-4:10. You can more information about me and my classroom at <https://bit.ly/sciencewithmssmith>

Attendance Policy & Its Importance

Regular school attendance is essential. Absences from class may result in serious disruption of a student's education. The student and parent should avoid unnecessary absences. Two important state laws—one dealing with compulsory attendance and the other with how attendance affects the award of a student's final grade or course credit—are discussed in the MISD Student Handbook.

Please notify the school if your child will be absent. Frequent or extended absences may make it more difficult for your child to learn necessary foundational skills that ensure student success this year and in future school years and could result in loss of credit.



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Please feel free to reach out with any questions or concerns. We are excited to work together to make this a successful year of learning!

Please fill out the portion below and return this portion to your teacher.

We acknowledge that we have read and that we understand the expectations in AP Biology. We agree to contact the teacher should we have any questions or concerns regarding this instructional plan.

Parent Name: _____

Student Name: _____

Cell Phone Number: _____

E-Mail: _____

Parent Signature : _____

Student Signature: _____

Date: _____