

Midland College Syllabus

2022 - 2023

BIOL 1406 L

General Biology I Lab

4 Semester Credit Hours

(3 Lecture/3 Lab)

Core Curriculum Course

Instructor Information:

Instructor: [Click here to enter text.](#)

Phone: [Click here to enter text.](#)

Office Hours: [Click here to enter text.](#)

Office: [Click here to enter text.](#)

Email: [Click here to enter text.](#)

Notice: Students MUST actively participate by completing an academic assignment required by the instructor by the official census date. Students who do not actively participate in an academically-related activity will be reported as never attended and dropped from the course.

Course Description:

This laboratory-based course accompanies Biology 1406, Biology for Science Majors I. Laboratory activities will reinforce the fundamental principles of living organisms, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Study and examination of the concepts of cytology, reproduction, genetics, and scientific reasoning are included. Prerequisite: TSI complete in Reading and Math.

Core Objectives:

This course fulfills four hours of the Life and Physical Science requirement in the Midland College **Core Curriculum**. The Core Curriculum is a set of courses that provide students with a foundation of knowledge, skills and educational experiences that are essential for all learning. The URL for the Core Curriculum is available on the [Midland College Catalog](#). As part of the core, this course addresses the following four objectives:

Critical thinking skills – Students will demonstrate critical thinking by differentiating viruses, prokaryotic, and eukaryotic cells and evaluating cellular responses to movement of molecules across a membrane using instructor created proctored exams and imbedded departmental exam questions.

Communication skills – Students will demonstrate communication skills in written, oral, and visual form within the classroom setting through instructor posed questions, collaborative peer assignments, and exams.

Empirical and Quantitative skills – Students will demonstrate empirical and quantitative skills by analyzing genetics problems and testing hypotheses

utilizing the scientific method through course assignments, exams, and analyzing lab results and numerical data obtained during lab activities.

Teamwork – Students will demonstrate teamwork skills by functioning as collaborative and cooperative small groups through lab activities verified by submitted reports or visual confirmation by the instructor.

Text, References and Supplies: Canvas Accessible:

Computer: Access to a working computer throughout the course with the ability to access the internet and Canvas.

Student Learning Outcomes:

Upon successful completion of this course, students will:

1. Apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Describe the characteristics of life.
5. Explain the methods of inquiry used by scientist.
6. Identify the basic properties of substances needed for life.
7. Compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.
8. Describe the structure of cell membranes and the movement of molecules across a membrane.
9. Identify the substrates, products, and important chemical pathways in metabolism.
10. Identify the principles of inheritance and solve classical genetic problems.
11. Identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.
12. Describe the unity and diversity of life and the evidence for evolution through natural selection.

Students will learn techniques to demonstrate osmosis, diffusion, and respiration. Students will learn the basic principles of genetics and evolution and perform exercises to demonstrate these principles.

Student Contributions, Responsibilities and Class Policies:

It is the student's responsibility to read and understand the official Midland College attendance and withdrawal policies as stated in the college catalog.

Students that are tardy, take excessive break time, or leave before completion of the day's exercise (including proper clean-up), may be counted absent. This will be at the discretion of the instructor. Regular attendance is required to do well in lab. Laboratory exercises and laboratory practicals require extensive preparation and set-up. The lab instructor's handout will outline policies pertaining to absences. It is the student's responsibility to contact the lab instructor regarding absences.

Attendance Policy:

It is the responsibility of the students to know the policies and procedures associated with absences. These policies are set by instructors. Excused absences may include, but are not limited to, illness, severe weather, and death in the family. Instructors will determine whether or not an absence is excused. Please visit the [Midland College Catalog](#)

Withdrawal Policy:

Students who have enrolled in a Texas public institution of higher education as a first-time freshman in fall 2007 or later are permitted to drop no more than six courses during the entire undergraduate career. This limit includes all transfer work taken at a Texas institution of higher education and to second baccalaureate degrees. This statute was enacted by the State of Texas in spring 2007 (Texas Education Code 51.907). Any course that a student drops after Census Day is counted toward the six-course limit if "(1) the student was able to drop the course without receiving a grade or incurring an academic penalty; (2) the student's transcript indicates or will indicate that the student was enrolled in the course; and (3) the student is not dropping the course in order to withdraw from the institution." Please visit the [Midland College Catalog](#)

Scholastic Dishonesty:

Midland College does not tolerate scholastic dishonesty or academic misconduct in any form. Please read the MC Student Handbook on this subject. Please visit the [Midland College Catalog](#)

For safety concerns, students are not allowed to eat or drink in the laboratory, and are expected to follow all safety guidelines as instructed.

Students are strongly encouraged to seek extra help if they are having difficulty with the assigned material.

Evaluation of Students:

Course Grade will be determined according to the following.

Lab: 30% of total course grade, may be composed of the following:

Exams (1-5 exams may be given during the semester): 25-50%

Formal Written Report: 0-25%

Weekly activities (quizzes and assignments): 0 – 50%

Grading policies will be discussed on the lab instructor's handout.

Course Schedule:

This class meets for 3 lecture hours per week and 3 laboratory hours per week. All sections have a common assessment. The common assessment for this class is shown in the schedule and is noted as such. For a tentative schedule of the class meetings and laboratory meetings, please refer to the schedule distributed to each student on the first class meeting (See Instructor Handout).

Non-Discrimination Statement

Midland College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following individual has been designated to handle inquiries regarding the non-discrimination policies:

Tana Baker

Title IX Coordinator/Compliance Officer
3600 N. Garfield, SSC 131
Midland, Texas 79705
(432) 685-4781
tbaker@midland.edu

For further information on notice of non-discrimination, visit the ED.gov Office of Civil Rights website, or call 1 (800) 421-3481.

Americans with Disabilities Act (ADA) Statement:

Midland College provides services for students with disabilities through Student Services. In order to receive accommodations, students must visit www.midland.edu/accommodation and complete the Application for Accommodation Services located under the Apply for Accommodations tab. Services or accommodations are not automatic, each student must apply and be approved to receive them. All documentation submitted will be reviewed and a "Notice of Accommodations" letter will be sent to instructors outlining any reasonable accommodations.

Continuity of Instruction Statement

In the event that on campus activities are suspended due to extenuating circumstances, such as weather or quarantine, the instructor will continue instruction in a manner that best supports the course content and student engagement. In this event, your instructor will notify students of the change via [Click here to enter text.](#) At that time, they will provide details about how instruction and communication will continue, how academic integrity will be ensured, and what students may expect during the time that on campus activities are suspended. If a student becomes unable to continue class participation due to extenuating circumstances, (e.g., health and safety, loss of power, etc.) the student should contact their instructor and advisor for guidance. Resources are available to students via the SOS program. Information can be found at <https://www.midland.edu/services-resources/student-services/sos.php>.

Grievances or complaints

Concerns should be expressed as soon as possible to allow for early resolution. Midland College encourages students to discuss their concerns with their instructor first. If you feel uncomfortable discussing your situation with your instructor, students should discuss their concerns with the Chair of the appropriate department (Biology Chair – Mr. Tomas Hernandez (432-685-6751), Chemistry Chair – Mr. John Anderson (432-685-6737), Engineering and Physics Chair – Dr. Brian Flowers (432-685-4586), Geology

Chair – Mr. Antony Giles (432-685-5580), Kinesiology Chair – Ms. Sheena Thompson (432-685-4579), Math Chair – Dr. Krista Cohlma (432-685-4541) then the Dean of Math and Science – Dr. Miranda Poage (432-685-4561). If a resolution is still not possible, students may proceed with the formal complaint process.

<http://catalog.midland.edu/content.php?catoid=14&navoid=2579#grievance-s-and-complaints>

Math & Science Division Information:

Division Office: AHSF 124 (432) 685-4561
 Division E-Mail: mns@midland.edu

Department Chair: Mr. Tomas Hernandez (432) 685-6751
 Dean: Dr. Miranda Poage
 Secretary: Sarah Anderson
 Clerk: Liliana Orcutt

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