BIOL 1406-104C3
Biology for Majors I
Spring 2025
MW 2:00 PM -4:50 PM STEAM 320

Instructor Information: Samantha Blaine
Preferred contact method: email at sblaine@com.edu

Student hours and location:
Office Hours: Monday 4:50 PM – 5:30 PM and Wednesday 4:50 PM – 5:50 PM in STEAM 320, or by appointment via email.

Required Textbook: Textbook and/or courseware will be available digitally. "The e-book and Mastering content are purchased at the time of registration, and you will gain access to the online materials once you are in Brightspace/D2L when classes begin." The course materials will be available on the first day of class and you will be given the opportunity to opt-out of the e-book prior to the census day of the class. Before you opt out you MUST watch this video: https://youtu.be/8QdV3xmxmiU?si=TybUrrezcmfli3jN. If you choose not to use the course materials, you will be reimbursed after census day. The materials are not refundable after the census day. You will receive an email with more information about the use of the course materials.

The **lab manual** is available through the COM Bookstore and **must be purchased prior to the first lab activity.**You may not participate in lab without a lab manual.

Course Description: Fundamental principles of living organisms will be studied, including physical and chemical properties of life, organization, function, evolutionary adaptation, and classification. Concepts of cytology, reproduction, genetics, and scientific reasoning are included. Prerequisite: TSIA2 945-990 ELAR/CRC test AND 5 or higher on Essay OR 910-944 on CRC with 5-6 on Diagnostic Test + 5 or higher on Essay, or IRW 0320 with a grade of "C" or better. Successful completion of College Algebra or higher-level mathematics is recommended.

Course requirements:
Safety: Closed toe shoes are REQUIRED for lab. Students will not be permitted to enter the lab without proper attire. Shorts are not allowed on lab days.
Scantrons: You must purchase **3 scantrons** for the exams from the Bookstore-type 888-E (39 cents each).
Mastering Biology: Students will have homework assignments on Mastering Biology (online resource) for each chapter covered. These assignments are accessed through D2L.

Determination of Course Grade:
Lecture Grade (500 pts):

1. Lecture exams (400 pts) - A total of four lecture exams will be given throughout the semester.
2. Homework (100 pts) - Homework assignments will be given throughout the semester. For each topic covered in the lecture you will have assignments in Mastering Biology.

Laboratory Grade (350 pts):

1. Lab daily grade (150 pts) - Each lab will have activities to be completed for a portion of your lab daily grade.
2. Lab practical (100 pts each) - Two lab practicals will be given and will cover material from lab.

Final exam (150 pts): The final exam is comprehensive and will cover all the material presented in the lecture.

Grading scale: Final grades for this course will be based on total points earned and are assigned as follows:

Letter grade	Number of points
A	900-1000
B	800-899
C	700-799
D	600-699
F	0-599

Final grade for this course consists of both a lecture and laboratory component. Students must earn 70% or better in the laboratory component to successfully pass the course. Earning less than 70% in the laboratory component will result in an F for the course regardless of the lecture grade. Passing the laboratory component and failing the lecture component will not guarantee a passing grade for the course. Deviations from this policy will be at the sole discretion of the instructor.

Make-up and Late Work Policy:

Online assignments: MasteringBiology activities and assignments have an extended deadline that results in a 15% loss of points for each day the assignment is late. After missing the initial deadline, the maximum grade is 85%. After the extended deadline has passed, the assignment will be closed and any incomplete assignments will be given a zero.

Lecture Exams: Should you anticipate an absence on an exam day (lecture or final exam) you must contact your professor by email or in person **PRIOR to the absence**. Your situation will be evaluated by your professor, and at the discretion of your professor you may be allowed to take a make-up exam. Make-up exams will be allowed for a death in the family or a documented student illness. You must provide legitimate proof for your excuse in the case of missing an exam. Missed exams will result in a zero on the exam. The make-up exam MUST be taken within one week of the original exam date. You will be allowed one exam make up during the semester. If you arrive late to an exam (lecture, lab or final) and any student has completed the exam, you will not be allowed to take the exam. If no student has finished, you will be able to take the exam, but will not have extra time and must turn in your exam at the regularly scheduled end of the exam.

Lab Practical: Should you anticipate an absence on the day of the Lab Practical, you must contact your instructor PRIOR to the exam. Your situation will be evaluated and at the discretion of your instructor, you may be allowed to take a make-up practical or attend the practical during a different course section. Make-up practicals will be allowed for a death in the family or a documented student illness. You must provide legitimate proof for your excuse in the case of missing an exam. The make-up exam MUST take place within one week of the original exam date.

Labs: There are no make-up labs. Arriving late to the lab may result in not receiving full credit for completing the lab. The laboratory is designed to support the information provided by the lectures and online materials. This lab course is an introduction to fundamental biology that covers important topics in each lab meeting. You are responsible for the material covered in lab and it is YOUR responsibility to obtain any needed notes from a classmate. Lab attendance and participation are required and directly affect your weekly lab grade. Any deviations from this policy are at the sole discretion of the instructor. **Labs are due at the end of the class**. You must complete and submit the pre-lab by the due date. If you don't submit the pre-lab by the due date, or score less than 70%, you may not participate in lab. You will have 2 attempts to achieve 70%.

Communication with Instructor:

ALL electronic communication with the instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means. It is your responsibility to monitor your email/D2L accounts for communication from your professor. Please allow a reasonable time (24–48 hours) for a reply to your email.

Student Learner Outcomes:

Student learner outcomes	Core objectives	Course level assessments
Students will be able to describe the characteristics of life		
Students will be able to explain the methods of inquiry used by scientists		
Students will be able to identify the basic requirements of life and the properties of the major molecules needed for life		
Students will be able to compare and contrast the structure, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells	Critical thinking	Exam
Students will be able to describe the structure of cell membranes and the movement of molecules across a membrane		
Students will be able to identify the substrates, products, and important chemical pathways in metabolism	Empirical and quantitative skills	Lab activities
Students will be able to identify the principles of inheritance and solve classical genetics problems	Empirical and quantitative skills	Lab activities
Students will be able to describe the unity and diversity of life and the evidence for evolution through natural selection	Critical thinking	Exam
Students will be able to apply scientific reasoning to investigate questions and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data	Empirical and quantitative skills	Lab activities
Students will demonstrate their ability to use critical thinking and scientific problem-solving to make informed decisions in the lab	Critical thinking	Lab practical
Students will demonstrate their ability to communicate effectively the results of scientific investigations	Communication skills	Paper
Students will be able to identify the chemical structures, synthesis, and regulation of nucleic acids and proteins		
Students will demonstrate the ability to work effectively with others to support and accomplish a shared goal while recognizing and respecting different viewpoints	Teamwork	Discussion board

Academic Dishonesty:

Disciplinary actions will be taken for students that cheat on exams, submit plagiarized work (see below) or are involved in collusion (helping others cheat or plagiarize) as defined in the Student Handbook under the heading "Discipline and Penalties". The maximum penalty imposed for violations will be an F in the course. The student will also be referred to the Dean of Students for further disciplinary action. Please read through the "Standards of Conduct" in the Student Handbook for a more complete discussion of these issues and your rights and responsibilities.

Plagiarism: Plagiarism is using someone else's words or ideas and claiming them as your own. Plagiarism is a very serious offense. It includes paraphrasing someone else's words without giving proper citation, copying directly from a website and pasting it into your paper, and using someone else's words without quotation marks and citation. Any assignment containing any plagiarized material will receive a grade of **zero** and the student will be referred to the Office of Student Conduct for the appropriate disciplinary action.

Student Concerns:

If you have any questions or concerns about any aspect of this course, please contact me using the contact information previously provided. If, after discussing your concern with me, you continue to have questions, please contact Sheena Abernathy, Chair of the Science Department at sabernathy@com.edu or (409)933-8330.

Classroom Conduct Policy:

College of the Mainland requires that students enrolled at COM be familiar with the Standards of Student Conduct, which can be found in the on-line Student Handbook. Students should always act in a professional manner. Disruptive students will be held accountable according to college policy. Any violations of the Code of Conduct will result in a referral to the Office for Student Conduct and may result in dismissal from this class.

Behavioral Expectations: Each student is entitled to an environment conducive to learning. **Any situation** that prevents students from learning or the professor from teaching is a disruption. Please be respectful of your fellow students and the professor by adhering to the following:

1. For on-campus instruction: Cellphones can be used sparingly during class, but if the use begins to be a disruption to yourself, other students, or the instructor, you will be asked to put the device away. Headphones and earbuds are not allowed during labs unless explicitly stated by the instructor. Certain devices can be used to view content on the internet; however, this is at the discretion of the instructor. Laptops are permitted during class only to take notes. Surfing the internet or checking email is not permitted. You may be asked to leave if you cannot follow this policy.
2. During exams, **NO electronics will be allowed.** This includes but is not limited to devices such as: cellphones, laptops, tablets, earbuds, headphones, and smart watches. If a student has any of these devices out during an exam, **the exam will be taken from the student, and they will receive a zero for that exam.**
3. Due to safety reasons, friends, spouses, and children are not allowed in lecture rooms or lab rooms.
4. Students can be removed from the class if they are exhibiting disruptive behavior as deemed by the instructor. Repeated incidents will result in automatic withdrawal from the class. Students may need to meet with the Dean of Students before being allowed to return to class.

Lab Schedule

Week	Dates	Lab Activities	Pre-lab due date
1	1/13-1/16	Lab safety	N/A
2	1/22 (W)	Lab 1 – Scientific Method	Tu 1/21
3	1/29 (W)	Lab 2 – pH	Tu 1/28
4	2/5 (W)	Lab 3 – Biomolecules	Tu 2/4
5	2/12 (W)	Lab 4 – Microscopes	Tu 2/11
6	2/19 (W)	Lab 5 – Cells	Tu 2/18
7	2/26 (W)	Lab 6 – Cell Transport	Tu 2/25
8	**3/5 (W)**	**Lab Practical 1 (Labs 1-6)**	
9	3/12 (W)	Lab 7 – Enzymes	Tu 3/11
10	3/26 (W)	Lab 8 – Respiration and Fermentation	Tu 3/25
11	4/2 (W)	Lab 9 – Photosynthesis	Tu 4/1
12	4/9 (W)	Lab 10 – Mitosis and Meiosis	Tu 4/8
13	4/16 (W)	Lab 11 – Genetics	Tu 4/15
14	4/23 (W)	Lab 12 – DNA and Electrophoresis	Tu 4/22
15	**4/30 (W)**	**Lab Practical 2 (Labs 7-12)**	

Labs are worth 12.5 points (150 total) W=Wednesday M=Monday

Lecture Schedule

WEEK	TOPIC	READING ASSIGNMENT	COURSE ASSIGNMENT
1 1-13:M 1-15:W	Intro to course; Themes of Biology(1); Chemical Context of Life(2)	Entire syllabus; Ch. 1 and Ch. 2	MB Ch. 1 and 2 and extra credit due Sun., Jan. 19 at 11:59 PM
2 1-22: W	Water and Life(3); Carbon and the Molecular Diversity of Life(4)	Ch. 3 and Ch. 4	MB Ch. 3 and 4 due Sun., Jan. 26 at 11:59 PM
3 1-27:M 1-29:W	Structure and Function of Large Biomolecules(5)	Ch. 5	EXAM 1 Ch. 1-4 **1-27** MB Ch. 5 due Sun., Feb. 2 at 11:59 PM

4 2-3:M 2-5:W	A Tour of the Cell	Ch. 6	MB Ch. 6 due Sun., Feb. 9 at 11:59 PM
5 2-10:M 2-12:W	Membrane Structure and Function	Ch. 7	MB Ch. 7 due Sun., Feb. 16 at 11:59 PM
6 2-17:M 2-19:W	An Introduction to Metabolism	Ch. 8	MB Ch. 8 due Sun., Feb. 23 at 11:59 PM
7 2-24:M 2-26:W	Cellular Respiration	Ch. 9	EXAM 2 Ch. 5,6,7,8 **2-24** MB Ch. 9 due Sun. Mar. 2, at 11:59 PM
8 3-3:M 3-5:W	Photosynthesis	Ch. 10	**LAB PRACTICAL #1 (labs 1-6) 3-5** MB Ch. 10 due Sun. Mar. 9, at 11:59 PM
9 3-10:M 3-12:W	The Cell Cycle Meiosis	Ch. 12 and 13	MB Ch. 12 and 13 due Sun., Mar. 23 at 11:59 PM
10 3-24:M 3-26:W	Mendel and the Gene Idea The Chromosomal Basis of Inheritance	Ch. 14 and 15	EXAM 3 Ch. 9,10,12,13 **3-24** MB Ch. 14 and 15 due Sun., Mar. 30 at 11:59 PM
11 3-31:M 4-2:W	Molecular Basis of Inheritance	Ch. 16	MB Ch. 16 due Sun., Apr. 6 at 11:59 PM
12 4-7:M 4-9:W	Gene Expression	Ch. 17	MB Ch. 17 due Sun., Apr. 13
13 4-14:M 4-16:W	DNA Tools and Biotechnology	Ch. 20	EXAM 4 Ch. 12,13,14,15 **4-14** MB Ch. 20 due Sun., Apr. 20 at 11:59 PM
14 4-21:M 4-23:W	Evolution	Ch. 22	MB Ch. 22 due Sun., Apr. 27 at 11:59 PM
15 4-28:M 4-30:W	Review Exams 1-4; review for LP 2; review for final exam		**LAB PRACTICAL #2 (labs 7-12) 4-30**
16 5-5:M	Comprehensive final exam		**FINAL EXAM 5-5**

***MB** = Mastering Biology online homework questions

Institutional Policies and Guidelines

Grade Appeal Process: Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the student handbook **https://www.com.edu/student-services/docs/Student_Handbook_2024-2025_v2.pdf.** *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

Academic Success & Support Services: College of the Mainland is committed to providing students the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

ADA Statement: Any student with a documented disability needing academic accommodations is requested to contact:

Kimberly Lachney, Student Accessibility Services Coordinator

Phone: 409-933-8919

Email: AccessibilityServices@com.edu

Location: COM Doyle Family Administration Building, Student Success Center

Textbook Purchasing Statement: A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

Withdrawal Policy: Students may withdraw from this course for any reason prior to the last eligible day for a "W" grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from the 1st 8-week session is February 26. The last date to withdraw from the 16-week session is April 21. The last date to withdraw for the 2nd 8-week session is April 30.

FN Grading: The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw.

The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

Early Alert Program: The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer in order for you to meet your academic goals.

Resources to Help with Stress:

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please click here https://www.com.edu/community-resource-center/. College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students office at deanofstudents@com.edu or communityresources@com.edu.

Nondiscrimination Statement:

The College District prohibits discrimination, including harassment, against any individual on the basis of race, color, religion, national origin, age, veteran status, disability, sex, sexual orientation, gender (including gender identity and gender expression), or any other basis prohibited by law. Retaliation against anyone involved in the complaint process is a violation of College District policy.