BIOL 1406.104CL
Biology for Majors I
Fall 2023
M/W 2-4:50, STEAM 320

Instructor Information:

Christopher Hall
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Office Telephone: (409)933-8328

Office Hours and Location:

Office Hours
Mon & Wed – 10-11
Tues – 1:30-3:30
Thurs – 1:30-3:00
Friday 8- 10 (online)

Office: STEAM 325-37

Course Communication: Email preferred method of communication. Office phone during office hours.

Course Information

Required Textbook:

- *Campbell Biology* e-text with Mastering Biology 12th edition. You may also purchase any *recent* edition of Campbell Biology as long as you have an access code for the Mastering Biology content. The Mastering content will be available thru Brightspace D2L, in the Dashboard. You will need to finalize your purchase by following the tab on D2L.
  - Textbooks and/or courseware will be available through VitalSource digitally. The cost of the course materials for this section will be $76.95. The course materials will be available on the first day of class. Do not opt out of this as you will not be able to access mastering assignments or your e-text. The materials are not refundable after the census day. ***You will receive an email with more information about the use of the course materials closer to the start of the semester, if you do not receive that email then let me know.*** Let me know as soon as possible if you cannot access content, after completing registration.

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. Since you have Inclusive Access to course materials, purchasing a hard copy of the text is not necessary.

Course Requirements

Required Online Resources

- COM Brightspace D2L: http://com.brightspace.com. ***COM Brightspace D2L will be used for online activities, accessing your lab handouts, reviews, and other course materials.*** In addition, Brightspace D2L will allow students to communicate with each other and the instructor. Many class resources will be available through Brightspace D2L. If you have any questions regarding course access or training, please contact the Distance Education department (www.com.edu/de/index.cfm) at extension 8476.
- Mastering Biology Course – **Login will be completed through Brightspace D2L**
  Each student must purchase an access code to complete the assignments through the Mastering Biology website. This is done when the student registers for the course. The cost for the course content is $76.95, which includes both Mastering Biology and the e-text. You will have 10 assignments on Mastering Biology for topics covered.
  YOU MUST OPT IN - You will have several assignments on Mastering Biology for each topic covered.
  - You may purchase a lab manual from the bookstore for this course. Pictures are colored and organized. I also provide the lab modules on D2L Brightspace for your convenience if you don't buy the lab manual from the bookstore.

Required Materials

- Scantrons (5) – 888E. Purchase before the first exam. I will not provide these during exams.
- Computing resources and reliable internet.

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. Prerequisites: CPT Reading 78/READ 0370. Successful completion of College Algebra or better-level mathematics is recommended.

Determination of Course Grade/Detailed Grading Formula:

Lecture Grade (790 points):

1. Lecture exams (400 points) – A total of four lecture exams, each worth 100 points, will be given throughout the semester (see Tentative Course Outline). The final exam will be comprehensive, and you can replace your lowest exam grade with your Comprehensive Final score.
2. Additional Assignments (100 points) – There will be (10) assignments focusing on different topics like mitosis, cells, and genetics, with questions and activities related to that topic. Each is worth 10 points.
3. Chapter Reviews (80 points) - There will be chapter reviews related to the topics covered during the course. I split them into 4 separate reviews. Each review is worth 20 points. As a rule, these Reviews are due on the same day as regularly scheduled lecture exams.
4. Comprehensive Final Exam (100points) – There will be a comprehensive final exam at the end of the semester. This exam score can be used to replace your lowest lecture exam from the semester.
5. Mastering Biology (~110 points) – you will have various Mastering Biology homework assignments during the semester that cover topics discussed in class.

Laboratory Grade (480 points):

1. Lab Practical (200 points) – (2) Two lab practical's will be given during the semester, covering material from previous labs. Each practical is worth 100 points. First practical covers Labs 1-6, Second practical covers Labs 7-11.
2. Lab Reports (100 points). A lab report, worth 100 points, will be written regarding the experiments performed for cellular respiration and fermentation.
3. Labs (110 points) – You will be required to complete and submit all labs related to the topics that we are covering during the semester. Each lab has a corresponding section in your lab manual that needs to be completed. For the labs that you attend, you will complete the lab and submit them during lab. Due dates will be in the course calendar. 10 points each.
   You may not submit any lab that you missed in person. If you do not attend the lab, you will not be allowed to turn in the lab at a later time.

Points:

Lecture Grade (810 points)	
Lecture exams	400 points
Mastering Biology Homework (10)	~110 points
Additional Assignments (10)	100 points
Chapter Reviews (4)	80 points
Final Exam 100 points	
Comprehensive Final Exam	100 points
	790 total points
Laboratory Grade (410 points)	
Labs (11)	110
Lab Report/Paper	100 points
Lab Practicals	200 points
	410 total points
Total Possible Points	**1200 Points**

TENTATIVE COURSE OUTLINE				
	DAY	**Topic(s)**	**Readings**	**Course Assignment(s)**
1	8/28	Intro to Course Evolution, the Themes of biology, and Scientific Inquiry	• Chapter 1	• Mastering HW 1 (Due 10/20)
	8/30	Evolution, the Themes of biology, and Scientific Inquiry Cont'd Lab Safety	• Chapter 1 cont'd	• Lab Safety Sheets
2	9/4	No Lecture. Labor Day		BUY SCANTRONS!!
	9/6	Lab 1: Scientific Method	• Chapter 2 and 3	
3	9/11	The Chemical Context of Life Water and Life	• Chapter 2 and 3 cont'd	• Mastering HW 2 (Due 10/20)
	9/13	Lab 2 : pH and the environment		
4	9/18	Carbon and the Molecular Diversity of Life The Structure and Function of Large Biological Molecules	• Chapters 4 and 5	• Mastering HW 3 (Due 10/20)
	9/20	Lab 3: Macromolecules		
5	9/25	**EXAM 1 (1,2,3,4,5)** A Tour of the Cell and Viruses	Chapters 6 and 19	
	9/27	Lab 4: Microscopes		
6	10/2	A Tour of the Cell and Viruses cont'd Membrane Structure and Function	• Chapters 6 and 19 • Chapter 7	• Mastering HW 4 (Due 10/20)
	10/4	Lab 5: Cells		
7	10/9	An Introduction to Metabolism	• Chapter 8	
	10/11	Lab 6: Cell transport: Diffusion and Osmosis		
8	10/16	**EXAM 2 (6,7,8,19)**	•	• Mastering HW 5 (Due 10/20)
	10/18	**LAB PRACTICAL I (1-6)**		
9	10/23	Cellular Respiration and Fermentation	• Chapter 9	
	10/25	Lab 7: Enzymes		
10	10/30	Photosynthesis	• Chapter 10	• Mastering HW 6 (Due 12/08)
	11/1	Lab 8: Yeast and Alcoholic Fermentation		Paper Topic: 'Fermentation and Respiration'
11	11/6	The Cell Cycle Meiosis and Sexual Life Cycles	• Chapter 12 and 13	• Mastering HW 7 (Due 12/08)
	11/8	Lab 9: Photosynthesis		
12	11/13	**EXAM 3 (9,10,12,13)** Mendel and the Gene Idea The Chromosomal Basis of Inheritance	• Chapter 14 • Chapter 15	• Mastering HW 8 (Due 12/08)
	11/15	Lab 10: Mitosis and Meiosis		
13	11/20	Molecular Basis of Inheritance DNA Tools and Biotechnology	• Chapter 16 • Chapter 20	• Mastering HW 9 (Due 12/08)
	11/22	NO LAB: Thanksgiving Week		
14	11/27	**EXAM 4 (14,15,16,20)** Evolution & Descent with Modification	• Chapter 22-23	**W-Day November 28th**
	11/29	Lab 11: DNA and Biotechnology/Genetics		
15	12/4	**LAB PRACTICAL II**		• Mastering HW 10 (Due 12/08)
	12/6	**COMPREHENSIVE FINAL EXAM**		
14				

Grading Scale:

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

Letter Grade	Number of Points
A	90 - 100
B	80 – 89
C	70– 79
D	60 – 69
F	0 – 59

Make-Up Policy:

- **Lecture Exams**: Should you anticipate an absence on an exam day you must contact your instructor by email or in person PRIOR to the absence. Your situation will be evaluated by your instructor and at the discretion of your instructor, 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 illness. You must provide legitimate proof for your excuse in the case of missing an exam. Only one make-up exam is allowed during the semester. *The make-up exam MUST be taken at the end of the semester, after you complete all your other course work.* No lab exams can be made up. If you have a legitimate excuse, as outlined above, then we will discuss your options should the situation arise. *If you show up more than 30 minutes late for an exam, then you will not be allowed to take that exam and will be considered absent and you will receive a (0) zero on that exam. In addition, you will be marked as absent on any day that you show up more than 30 minutes late.*
- **Assignments**: If you miss class on the day an assignment is due, you will receive a ZERO for the missed assignment. To prevent a grade of ZERO, make arrangements with your instructor in order to avoid missing any work. If you miss lab, you may not submit that lab at a later date without an excused absence.
- **Online Assignments:** Ample time is given for each student to complete the online assignments (Mastering assignments, etc.). Failure to meet these deadlines will result in a ZERO for the assignment and no extra time will be allowed to make-up the assignment. In the event of an internet outage or other internet issue, at the discretion of your instructor, your assignment may be reset to allow you to take it again. Contact must be made with your instructor within 24 hours of the problem.
- **Labs**: There are NO MAKE-UP LABS. Arriving late to lab will result in not receiving full credit for completing the lab. You are still responsible for the material covered in lab and it is YOUR responsibility to contact your instructor to inform them of your absence.

Attendance Policy:

Students are expected to attend all class sessions as listed on the course calendar. These attendance policies apply to both lecture and lab.

- Attendance will be taken at the beginning of each class. Leaving early from class (without approval from the instructor) may result in an absence for that day. If you show up later than 30 minutes for either lecture or lab, you will be marked as absent. ***If you miss more than (6) meetings during the semester, you may be dropped from the course.*** If you do have to miss class, course materials are posted on Brightspace D2L, but it is your responsibility to obtain any additional notes from a classmate.

Disclaimers/Additional Policies:

Academic Dishonesty:

Any incident of academic policy will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a **grade of zero** on that exam and the student will be referred to the Office of Student Conduct for appropriate discipline action.

Plagiarism:

Plagiarism is using someone else's words or ideas and claiming them as your own. Plagiarism is a very serious offense. Plagiarism includes paraphrasing someone else's words without giving proper citation, copying directly from a website and pasting it into your paper, using someone else's words without quotation marks. 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 discipline action. **Link(s) to resource(s) about avoiding plagiarism:** https://owl.english.purdue.edu/owl/resource/589/01/

Student Concerns/Questions Statement:

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 Mrs. Sheena Abernathy at ext. 8330, and sabernathy@com.edu

Student Learner Outcomes:

Student Learner Outcomes	Core Objectives	Course Level Assessments
1. Students will be able to describe the characteristics of life.		
2. Students will be able to explain the methods of inquiry used by scientists.		
3. Students will be able to identify the basic requirements of life and the properties of the major molecules needed for life.		
4. Students will be able compare and contrast the structures, reproduction, and characteristics of viruses, prokaryotic cells, and eukaryotic cells.	Critical Thinking	Exams – Selected Questions
5. Students will be able to describe the structure of cell membranes and the movement of molecules across a membrane.		
6. Students will be able to identify the substrates, products, and important chemical pathways in metabolism.	Empirical and Quantitative Skills	In class activity
7. Students will be able to identify the principles of inheritance and solve classical genetics problems.	Empirical and Quantitative Skills	In class activity
8. Students will be able to describe the unity and diversity of life and the evidence for evolution through natural selection.	Critical Thinking	Exams – Selected Questions
9. 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
10. Students will demonstrate their ability to use critical thinking and scientific problem-solving to make informed decisions in the laboratory.	Critical Thinking	Lab exam questions
11. Students will demonstrate their ability to communicate effectively the results of scientific investigations.	Communication Skills (CS1 and CS2)	Paper/Presentation
12. Students will be able to identify the chemical structures, synthesis, and regulation of nucleic acids and proteins.		
13. Students will demonstrate the ability to work effectively with others to support and accomplish a shared goal while recognizing and respecting different viewpoints.	Teamwork	Lab activity Paper/presentation

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_2023-2024_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 at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is located in the 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 October 11. The last date to withdraw from the 16-week session is November 28. The last date to withdraw for the 2nd 8-week session is December 7.

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.

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. http://www.com.edu/student-services/student-handbook.php . 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 instructor from teaching is considered to be a disruption. Please be respectful of your fellow students and the instructor by adhering to the following:

1. Cell phone use during class is not permitted. If I see repeated violations of this rule, you will be asked to leave the class and you will not get credit for that day's work. Laptops are ONLY permitted during class to take notes. *First offense*: a warning and you will be allowed to stay in class.

    a. *Additional Offenses:* you will be asked to leave the class/lab and receive an absence for the day. Repeated violations of this policy may result in your removal from the course.
    b. *During exams, no electronics will be allowed out. If the 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.*

2. Due to safety reasons, friends, spouses, and children are not allowed in lab.

3. 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 who display this conduct will be removed from the class and required to meet with the Associate VP for Student Success and Conduct, before being allowed to return to class if the instructor allows it.

Success Tips for Students:

Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that they can help you find a solution.

Success Tips for Students:

10 Tips to Succeed in Class

1. Come to class. In some courses all you have to do is read the book; that's not the case here. The lecture will key you in to what is important and what isn't; it will also provide a framework to stuff all the facts into. If you must miss class, get the notes from a fellow student or the web, and then go over the notes with someone who was present at the live lecture.
2. Take notes. Everything that really matters will be discussed in class; the book is really just for back up. The Powerpoints are posted online to help you fill in anything you missed. Taking notes helps you pay attention in class and remember the material.
3. Form a study group or partnership. Don't try to do it alone. Study groups are generally good because they help you go over the material, give you an opportunity to practice explaining your answers, and provide moral support.
4. Do the problems. Seriously and carefully. Do the problems at the back of each chapter and in Mastering Biology. In addition, Mastering Biology has a Study Area that you can take practice quizzes and watch videos and animations.
5. Make diagrams, pictures, summary charts, concept maps, etc. The ones in the book (and the ones handed out in class) may be good, but for best results, you should make your own.
6. Keep up. The current material is always based on what came before, so once you get behind it is very difficult to catch up. Some students find it is very helpful to quickly look over the notes of the previous lecture right before the current one.
7. Read one of the texts before class if the material is new to you. It is very hard to follow the lecture if every word and concept is unfamiliar.
8. Ask questions. If you don't understand something, ASK. The more effort you put into asking questions, the more you will get out of the answers.
9. Master the vocabulary. The stress in this course may be on *using* the vocabulary, but you won't get anywhere until you learn it first. So try to master all new terms as fast as possible.
10. See Me. Talk to me if you're having trouble in the course either in person or by email. Don't let things pile up. Address them early.

Links and Resources on how to Succeed in Biology

http://courses.ttu.edu/biol1403-mdini/Regular/howtostudybiology.html
http://www.elsevier.com/connect/11-pointers-for-college-success-from-a-professor-and-dad
The "A" Game book (available in the COM bookstore)
Get Ready for Biology book (can be found online at Amazon, Barnes & Noble, etc)

The Tutoring Center:

The Tutoring Center provides free tutoring services to students, staff and faculty seeking assistance for writing, reading and oral presentations for academic and non-academic assignments/projects. Located in the Industrial Careers Building (ICB),

Room 109, the center provides face-to-face and online tutoring sessions in a welcoming environment. Appointments can be made in person, or on the center scheduler at com.mywconline.com, or by clicking the SRWC icon on the COM website.
Hours:
Monday 8:00 AM – 8:00 PM
Tuesday 8:00 AM – 8:00 PM
Wednesday 8:00 AM – 8:00 PM
Thursday 8:00 AM – 8:00 PM
Friday 8:00 AM – 8:00PM
Saturday 9:00 AM – 1:00 PM
Sunday CLOSED

Course policies are subject to change. It is the student's responsibility to check D2L Brightspace for corrections or updates to the syllabus. Any changes will be posted in D2L Brightspace.