
GENERAL BIOLOGY I LABORATORY (BIOL 1106) Spring 2024

Teaching Assistant:

Office:

Email:

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Course Objectives: Biology 1106 is the first of two labs designed to provide a thorough introduction to biological science.

Student Learning Outcomes: After this class, you should be able to...

- Describe and apply the scientific method
- Proficiently use both a compound and dissecting microscope, understand and test the basic properties of water, describe the role of membranes in living organisms, conduct tests for major macromolecules, define and describe the properties of enzymes, describe respiration and photosynthesis, describe mitosis and meiosis and distinguish between their different roles in living organisms, understand Mendelian and molecular genetics, apply basic molecular genetic techniques, and describe protein synthesis.
- Have a better understanding of methods and techniques used in the biological sciences

Textbook: L. Urry, M. Cain, S. Wasserman, P. Minorsky, R. Jackson, and J. Reece. 2019. *Campbell Biology in Focus*. 3rd Edition. Pearson Benjamin Cummings, San Francisco, CA.

Lab Manual: Coleman, Jessica L. 2021. *Cell Properties & Processes*. 6th edition. Fountainhead Press & TopHat

We will be using **Top Hat** (www.tophat.com) to access the digital interactive textbook, **Cell Properties & Processes**, that we will be using in this class. For instructions on how to create a Top Hat account and enroll in our Top Hat course, please refer to the invitation sent to your school email address or consult Top Hat's Getting Started Guide (<https://bit.ly/31TGMLw>).

If you already have a Top Hat account, go to [URL] to be taken directly to our course. If you are new to Top Hat, go to <https://app.tophat.com/register/student> and search for our course with the following join code: [join code]

Bear in mind that textbook material will be made available in our course throughout the semester, so do not panic if you do not see any in the course upon entry. Should you require assistance with Top Hat at any time please contact their Support Team directly by way of email (support@tophat.com), the in-app support button, or by calling 1-888-663-5491. Their technical support team may require specific user information when troubleshooting issues.

Grading:

| | | Grade Distribution | | |
|--------------|-----------------|--------------------|---------|-------|
| | Points Possible | Percentage | Points | Grade |
| Exams (2) | 200 | 90-100% | 495-550 | A |
| Quizzes (10) | 100 | 80-89% | 440-494 | B |
| Homework (3) | 50 | 70-79% | 385-439 | C |
| Lab Manual | 50 | 60-69% | 330-384 | D |
| Lab Report | 150 | 50-59% | 0-329 | F |
| Total | 550 | | | |

Letter grades will be assigned according to the following scale:

A = above 89.5 B = 79.5 – 89.49 C = 69.5 – 79.49 D = 59.5 – 69.49 F = Below 59.5

All of your course grades will be in Canvas, so you can view your current course grade at any time. Please be aware that I cannot give you EXTRA CREDIT or WORK at the end of the semester. Your average shown in Canvas will determine your final grade in the course.

At the end of the semester, grades will be calculated in Canvas according to the syllabus. If your average is **within 0.5 points** of the next letter grade, I will round it up **automatically** (see grade scale above). The only other adjustment that will be made is if the final percentage is WITHIN ONE POINT of the next letter grade (and NO more), and the student has missed **THREE OR FEWER LECTURES, TWO or LESS WEEKLY QUIZZES** and has a **CLASS PARTICIPATION GRADE OF 80% or HIGHER**. If you meet these criteria, then I will **round up to the next letter grade**. (Mitigating circumstances will be taken into account at the discretion of the instructor).

Practical Exams: There will be two practical exams during the semester. Exams are designed to test the student's practical skills and techniques in the lab. There will typically be 33 stations (three questions at each station) where you will be required to identify the equipment, specimens, or demonstrate your knowledge of techniques. You will rotate through each station and **not be allowed to return to the station**. You will be provided with a scratch piece of paper where you can make notes about each station, so you can think about it at the end of the exam. You will only be allowed approximately one and a half minutes per station. Your instructor will give you more information prior to the scheduled practical exam date.

Make-up Exams: Make-up exams (as well as other material) will be given **ONLY** if a student notifies the instructor in **ADVANCE** or produces a verifiable written medical excuse. The students who fail to make appropriate arrangements will receive a grade of "0" for the missed exam or other material.

Quizzes: There will be **at least 10 quizzes** during the semester. Quizzes will be posted online (Canvas) for you to complete during the semester. For these quizzes, you will have 10-15 minutes to complete. Be sure to watch the clock closely, as you will not be granted extended time, you will have a point deducted for going over the time allotted for each quiz (since the quiz will auto-submit at the end of the allotted time). Each quiz will be worth 10 points. If you miss a quiz for ANY reason (including illness and excused travel absences), that quiz will be counted as one of the dropped scores. **There will be NO make-up quizzes!**

Attendance: Attendance is essential to success in this class. If you miss class, it is your responsibility to contact another student (not the instructor) to get notes and other announcements made during class. Be sure to keep up on your Canvas Announcements – these are here to remind you of a key events that are coming up in the course. **It is your responsibility to check these DAILY.**

NOTE: Attendance will be taken for each lab, and missed labs will result in points lost for your overall lab manual grade.

Lab Manual/Notebook Grade: For the lab manual grade (total of 50 points) it will be broken down into two parts: 1) The lab manual (questions in TopHat) and 2) The Lab notebook (a journal you will keep for each week's lab).

1. **Lab Manual** (30 total Points) – You will be required to complete assignments in your lab manual via TopHat. In order to log into your section, your instructor will provide you with a join code during the first lab or via Canvas. Each lab will have a set number of available points that you can obtain by answering specific questions in the lab manual. You will receive points for both correctness and participation. You must make sure you have them completed **PRIOR** to the due date posted by your instructor!

Late Assignments in TopHat will NOT be accepted!

2. **Lab Notebook** (20 total points) – You are required to keep a lab notebook for the semester. You can keep this in a normal spiral notebook and you can tape in tables, figures, or images as needed to your notebook. It is good practice to keep a log of all your activities in the lab. If you were to work in a research lab (i.e., Molecular lab) you would need to keep track of your records. In contemporary times, they are moving to a digital platform, but for the General Biology lab, we will use a more traditional method of journal-keeping. Your instructor will provide you with additional information during the first lab period.

Keep in mind that each lab period requires you to work as a team to run experiments and answer questions. If you miss a day, then you will miss key information to add to your lab notebook. Your attendance is also part of the lab manual grade, if you are missing multiple lab periods you will not have accurate information for your lab notebook.

A missed class will result in points deducted from your overall lab manual grade.

Canvas: Students should log onto Canvas ASAP and carefully read all announcements. Canvas and student email should be checked **DAILY** for new announcements or messages. On Canvas you will find lecture outlines, reviews for exams, videos, discussion board posts, and much more that will be very helpful for you as you take this course. Another really helpful tool is that all course grades will be in **Canvas**, so students will be able to view and calculate their current course grades at any time.

Pre-lecture Videos: Students will be required to watch pre-lecture videos that will be posted on Canvas and in your online lab manual. In order to view these videos, you will need to enroll in the UT Tyler On-course Digital Toolkit and Purchase the online lab manual (Tophat). The toolkit will have your pre-lecture videos and extra study material to help you be successful in the general biology labs. Your instructors will tell you more on the first day of the lab. Please make sure you watch the lecture **BEFORE** each lab, as there may be quiz questions pulled directly from these videos!

Lab Report Assignment: The lab report will be written over the **Enzyme lab** this semester (**the research paper's topic is to determine the enzyme activity of Peroxidase under various environmental conditions**). You will be responsible for composing a well-thought-out paper on this lab, which will include the basic components you include in a full write up (e.g., mimic peer-reviewed literature). See the **lab manual (on TopHat – Research Report Format)** for the detail of what each section should contain. It will be your responsibility to read these sections carefully to write up the lab report correctly. Be sure to follow all directions given by your instructor to make improvements on the report throughout the semester. You will do four-part submissions of your paper throughout the semester, all of which will be **submitted on Canvas**. Each of these submissions is designed to help you improve your scientific writing, for your final report submission. Be sure to read your instructor's comments and check the similarity reports prior to

resubmitting your work. Your instructor will give you more detail through out the semester for these assignments.

Academic Integrity: Students should be aware that absolute academic integrity is expected of every student, in all courses taken at The University of Texas at Tyler. Failure to comply can result in strong university-imposed penalties. For instance, submitting plagiarized work to meet academic requirements including the representation of another's work or ideas as one's own; the unacknowledged word-for-word research results shall be grounds for charges of academic misconduct. **Any cheating or other types of academic misconduct will be reported to the university administration and at minimum will result in an automatic failure of the course.**

Exams

- **TAKEN INDIVIDUALLY**, without input or assistance from anyone else, including students that have taken the exam, quiz, or course previously.
- The use of notes, texts, or any other reference material is **PROHIBITED**.
- Possession of anything containing course content will be considered cheating, whether or not you actually refer to them or not during the exam
- **TALKING** during an exam to anyone other than the instructor or proctor will automatically be considered cheating. It does not matter what you were talking about.
- Any use of a cell phone or any other electronic device that could be used to record or transmit test material is **PROHIBITED**. Phones must be out of sight and silenced during the exam.
- Hats worn during exams must be turned around or removed so the face is not covered in any way.

Lab Reports

- Students may **NOT** plagiarize any part of the lab report, it must be written individually.
- Methods may be similar since the same labs will be conducted; however, they may not be identical, since everyone writes a bit differently.
- Results may have similar data to your group members; **HOWEVER**, you should prepare your own tables and figures and create your own titles.
- You will submit this to a plagiarism checker via Canvas (Unicheck), which will check for all forms of plagiarism. Your similarity report should be less than 40%, if it is not, you better double-check your work!
- All submissions should be in a Word document.

WHAT IS PLAGIARISM AND HOW CAN IT BE AVOIDED?

Plagiarism may be defined as (1) presenting work, ideas, or phrasing of another, in whole or part, as one's own without giving credit and proper documentation of sources; (2) copying material directly from sources (including electronic media) except when the material is enclosed in quotation marks and the source is clearly identified; (3) paraphrasing too closely to the original, even when the source is identified; and (4) claiming credit for work in any media (electronic, digital, artistic, etc.) where the student is not the original creator of said work. Work that is plagiarized will receive an automatic grade of "F". If you are unsure about this subject, please take the time to talk to your instructor and /or read this:

<https://www.ox.ac.uk/students/academic/guidance/skills/plagiarism>

You will also be required to turn in all written assignments (lab report assignments) in a Word

document on **CANVAS** which will use **UNICHECK** to assess your paper for Plagiarism. You will find this on your Canvas page for this lab course; each assignment will be compared to previous student work and the work of your classmates! You will only need to turn in a copy of your assignment via the CANVAS Link.

Use of an AI Generator such as ChatGPT, iA Writer, MidJourney, DALL-E, etc. is **explicitly prohibited** unless otherwise noted by the instructor. The information derived from these tools is based on previously published materials. Therefore, using these tools without proper citation constitutes plagiarism. Additionally, be aware that the information derived from these tools is often inaccurate or incomplete. **It is imperative that all work submitted should be your own.** Any assignment that is found to have been plagiarized or to have used unauthorized AI tools may receive a zero and/or be reported for academic misconduct.

Corrupted File Policy: Any student that turns in a corrupted file will be given 24 hours to turn in a file that can be opened successfully by the instructor. Failure to do so will earn a grade of “0” (Zero) for the paper.

Laboratory Safety and Dress Code: Food and drink are **NOT** allowed in the labs at any time. Students are also required to wear the following PPE during all lab sections:

- **Clothes-toed shoes;** absolutely **NO open-toed shoes** are allowed. If you show up to lab with flip-flops, sandals, or other open-toed shoes you will be asked to leave OR must wear departmental rubber boots or waders during the lab time.
- **Long pants must be worn at all times during the lab.** Please do not show up in shorts, you will be asked to leave or wear full waders during lab.
- **Masks** (cloth or disposable) are recommended for students/TAs that are unvaccinated.
- **Gloves** may be required for some labs. If you leave the lab, you must remove your gloves and obtain new ones upon return.
- **Lab coats** will be provided as well if you would like to wear them as well. These will be new and cleaned each week.

NOTE: You will need to complete & pass (70% or better) the Biosafety Module and Quiz!

UNIVERSITY POLICIES

Students Rights and Responsibilities: To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link:

<http://www2.uttyler.edu/wellness/rightsresponsibilities.php>

Grade Replacement/Forgiveness and Census Date Policies: Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester’s Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract. The Census Date is the deadline for many forms and enrollment actions that students need to be

aware of. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a “W” grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy: Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services: In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Tyler at Texas offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The **Student Accessibility and Resources (SAR)** office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

Student Absence due to Religious Observance: Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second-class meeting of the semester.

Student Absence for University-Sponsored Events and Activities: If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor) must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement: It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g. via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation: Everyone is required to exit the building when a fire alarm goes off. Follow your instructor’s directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter

the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Concealed Handgun Policy: We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>.

UT Tyler Tobacco-Free Policy: All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

- Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.
- There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free

Student Standards of Academic Conduct: Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. “Cheating” includes, but is not limited to:

- copying from another student’s test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;
- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by
- the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to
- obtain an unadministered test, test key, homework solution, or computer program
- or information about an unadministered test, test key, home solution or computer
- program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;

- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
 - misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.
- ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.
 - iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.
 - iv. All written work that is submitted will be subject to review by Turnitin, available on Canvas.

I RESERVE THE RIGHT TO MODIFY THIS SYLLABUS AT ANY TIME. THEREFORE, YOUR ATTENDANCE AND ATTENTION TO THE ANNOUNCEMENTS ON CANVAS ARE CRUCIAL BECAUSE THEY WILL ASSIST YOU IN REMAINING CURRENT ON THE MATERIAL AND KNOWING WHEN THE SYLLABUS MAY BE MODIFIED.

| General Biology I Laboratory Schedule – Spring 2024 | | | |
|------------------------------------------------------------|-----------------------------------|-------------------------------|---------------------------------------------------------|
| Day | Topic | Quiz Schedule | Assignments Due |
| Jan 15 th | Intro to Lab / Scientific Method | Biosafety Q | |
| Jan 22 nd | Measurements | Q1 (syllabus) & Q2 | Primary Article (HW1), Topic, Questions, and Hypothesis |
| Jan 29 th | Microscopes | Q3 | |
| Feb 5 th | Basic Chemistry | Q4 | Methods section |
| Feb 12 th | Organic Molecules | Q5 | |
| Feb 19 th | Membranes | Q6 | |
| Feb 26th | PRACTICAL I | Q7 (review) | Title, Introduction, Methods, Literature Cited |
| Mar 4 th | ***Enzymes*** | | |
| Mar 11th | SPRING BREAK (no labs) | | |
| Mar 18 th | Cell respiration / Photosynthesis | Q8 | |
| Mar 25 th | Mitosis / Meiosis | Q9, Q10 | First Draft (complete paper) |
| Apr 1 st | Genes and Chromosomes | Q11 | Photosynthesis Hw2 |
| Apr 8 th | Molecular Biology | Q12 | Genetics Hw3 |
| Apr 15 th | Protein Synthesis | Q13 | Final Paper |
| Apr 22nd | PRACTICAL II | Q14 (Review) & Q15 (Pedigree) | |

*** Lab Report will be written over this lab. | Last day to Drop with a “W”: **March 25th, 2024**