BIOL 1710.005 Principles of Biology I  Spring 2026  MWF 11:00 - 11:50 am  Cury 103
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Office:  LSB-420  Office Hours:  MW 12:00-01:00pm or by appointment

The syllabus is not a contract and is therefore subject to change in response to unforeseen needs and events.

Course Description:
This is the first part of the two course sequence for science majors and students who require a biology class that will meet the requirements for Biology majors. The overall focus of Principles of Biology I is molecular and cell biology. The sequence of topics is to provide students with a broad background in biology that serves as a prerequisite and prepare them for higher-level courses.

Course Objectives
Students should be able to use critical thinking skills in applying biological knowledge to solve problems. Topics include: 1) chemical structure and function as it relates to biology, 2) structure and function of cells and their components, 3) molecular mechanisms of genetics, 4) mechanisms of evolution.

Course Requirements:
**Required Text**: Campbell Biology in Focus. 4th Edition, Urry, Cain, Minorsky, Orr and Hull. Published by Pearson, 2024

**Recommended Text:** https://openstax.org/details/books/biology-2e?Book%20details
This is a free online text available in different formats. Student resources are included.

**Library Webpage**: Introduction - BIOL 1710: Biology for Science Majors I - Guides at University of North Texas (unt.edu)

Exams: There will be FIVE exams (four lecture exams and a comprehensive final exam). Each worth 100 points per exam. The lowest lecture exam grade is dropped but NOT the comprehensive final exam grade. Exams will be based on text readings, class exercises, videos, and class lectures and discussions. Students are responsible for all text material, regardless of whether we review the text material in class or not. You must be on-time to take an exam.

Grading: The final grade will be the average of the three highest lecture exams and the comprehensive final. That is, SUM(three highest lecture exams + final)/4. Grading will follow a standard scale: 90% is an A, 80% is a B, 70% is a C, and 60% is a D. Federal regulations prohibit discussion of grades via phone or email.

**Attendance and Participation Policy:**
The University attendance policy is in effect for this course. Students are responsible to notify the instructor if they are missing class and for what reason. Absences due to participation in sponsored activities must be approved in advance by the department chair and academic dean. Within three days after the absence, students must obtain authorized absence cards from the Dean of Students for presentation to their instructors. The only excused absences recognized by the University of North Texas are observation of religious holiday, military service or wherein a student is representing the university in an official capacity such as athletics or band. According to UNT policy: "*An activity or event is organized and sponsored by the university when it has been planned, funded and properly approved by the appropriate university official".* Absence due to medical reasons may be excused but must be documented by a medical professional. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent (this is the only exception to the copyright policy below).
• Only students enrolled in the course are allowed to attend lectures.
• If a student needs to leave the class earlier she/he must talk to the professor before the class; the student should leave the classroom quietly.

• If a student has to leave the class (for example in case of a family emergency or a similar situation) the student must invite the professor politely out of the classroom to explain the situation.

**Conduct in the Classroom**
Appropriate behavior is expected of all students taking this course. Student behavior such as showing up late, that interferes with an instructor's ability to conduct a class or other students' opportunity to learn is unacceptable, disruptive and will not be tolerated. Students engaging in unacceptable behavior will be directed to leave the classroom and referred to the Center for Student Rights and Responsibilities.
• Arrive to class promptly and do not leave until the scheduled ending time of the class.
• Do not read newspaper or work on unrelated assignments during class.

**Disabilities Accommodation:**
The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information see the Office of Disability Accommodation website at http://www.unt.edu/oda. You may also contact them by phone at 940.565.4323.

**Academic Integrity:** In this class, academic misconduct will automatically result in a failing grade. The Department of Biological Sciences adheres to and enforces UNT's policy on academic integrity (cheating, plagiarism, forgery, fabrication, facilitating academic dishonesty and sabotage). Academic misconduct also includes the unacknowledged use of materials prepared by another person or agency in the distribution of academic materials. According to University policy, if you become aware of any misconduct related to academic integrity, you should inform me or another proper authority such as the department chair or associate dean. Failure to do so is considered academic misconduct. Students in this class should review the policy (UNT Policy Manual Section 18.1.16), online at http://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student_Affairs-Academic_Integrity.pdf. Violations of academic integrity in this course will addressed in compliance with the penalties and procedures laid out in this policy.

UNT Copyright Compliance Policy (16.13.3)
Copyright Infringement: Anyone who makes unauthorized use of copyrighted material in a manner that violates the copyright owner's exclusive rights (except for narrowly defined exemptions) is committing copyright infringement and may be subject to civil and criminal penalties as well as disciplinary action by UNT. All materials generated for this course, which include but are not limited to syllabi, lectures and notes, quizzes, exams, in-class materials, review sheets, etc… are protected by copyright law. You do not have the right to copy and distribute the any course materials. You are authorized to take notes in class thereby creating a derivative work from my lecture, the authorization extends only to making one set of notes for your personal use and no other. You are not authorized to record lectures, to provide your notes to anyone else or to make any commercial use of them.

Anti-Piracy Warning: The unauthorized reproduction or distribution of copyrighted work is illegal. Criminal copyright infringement, including infringement without monetary gain, is investigated by the FBI and is punishable by up to five years in federal prison and a fine of $250,000
•Unauthorized duplication, distribution or use of classroom training materials such as textbooks, PowerPoint presentations and any other learning materials provided.
•Unauthorized duplication, distribution or use of online training content, including computer software, online courses, skills assessments, sound or video recordings, training data and reports.
•Unauthorized duplication, distribution or use of web site content, including -authored articles and case histories, sound or video recordings, photos and graphics, etc.

**LECTURE: BOOK CHAPTERS, TOPICS AND EXAM SEQUENCE:**

**1. Chemistry and Cells** Chapters 1-4

Know how the hierarchy of living organisms and themes of the text organize the conceptual framework for understanding biology.
Understand how chemicals form bonds and the structural/functional characteristics of important biological molecules.
Know how organization of cellular components determines cellular function.

EXAM #1, Wednesday, February 4

**2. Metabolism and Cell Communication** Chapters 5-8

Know how organization of cellular components determines cellular function.
Understand how animals convert energy of chemical bonds into different kinds of energy and understand how plants convert light energy into chemical bond energy.
Understand how cells communicate.

EXAM #2, Monday, March 2

**3. Cell Reproduction and Genetics** Chapters 9-13

Understand the stages and events of the life cycle and division of somatic and reproductive cells.
Understand the basis of inheritance and the relationship and roles of genes and chromosomes.

EXAM #3, Wednesday, April 1

**4. Mechanisms of Gene Expression and Genomes** Chapters 14-15,21-22

Understand how the sequence of nucleotides in a gene is converted into a sequence of amino acids to make a protein.
Understand the genetic basis of evolution.

EXAM #4, Friday, April 24

**COMPREHENSIVE FINAL EXAM – Monday, May 4, 10:00 a.m. to 12:00 p.m.**

All exam dates are tentative and subject to change. I will announce the date of each exam in class at least one week in advance.

**Course Outcomes:**

Overall - The ability to synthesize examples, facts, or hypotheses from more than one level of organization into a coherent whole.

1. Demonstrate knowledge of the levels of biological organization and the ability to integrate them: cellular/molecular, organismal, population.

2. Describe the macromolecules/structures that make up cells and understand how the structure and function of these elements work together to sustain life.

3. Demonstrate the ability to integrate the physical sciences (chemistry, physics, and mathematics) with biology.

4. Learn and distinguish the various ways that cells harvest energy.

5. Gain a broad understanding of the historical figures and classic experiments that contribute to our current understanding of molecular and cellular biology.

6. Understand how hereditary information is stored, expressed, replicated, and passed to subsequent generations.