University of North Texas
Department of Biological Sciences
Course Syllabus
Principles of Biochemistry - BIOC 3621-501
3 Credit Hours
Meeting Times: MW: 11:00 AM–12:20 PM
FRLD 310

Instructor: Dr. Regina Oyesanya
regina.oyesanya@unt.edu
Office: FRIP 289/FRLD110D

Office Hours (Reserve on Canvas Calendar)
Wed: 1–2 pm
Thurs: 10–11 am
Or by appointment

****I am also available immediately after class for quick questions and chat. I am willing to discuss things over email, or by phone.****

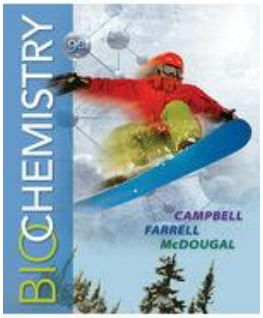
COURSE WEBSITES

Primary: http://canvas.unt.edu Others: http://pollEv.com

COURSE PREREQUISITE

Intro Biology I and II with a grade of C or better. At least 1 biology lecture/lab at the 2000 level and Organic Chem I completed with a grade of C or better.

REQUIRED COURSE TEXTBOOK



Biochemistry, 9th Edition by Mary K. Campbell, Shawn O. Farrell, Owen M. McDougal, published by Cengage. This book is available for purchase or rental at the UNT bookstore and can also be bought or rented from various local and on-line retailers. Readings follow the topic order in the course schedule. You will be well-prepared for the lecture if you complete the assigned readings before coming to class. Problems will be assigned through Cengage homework platform, and **you must complete them** to succeed in this class.

COURSE STRUCTURE & TECHNOLOGY REQUIREMENTS

This course will utilize both face-to-face and online elements. Students must attend the face-to-face lecture meetings as assigned in the syllabus. Students must also complete online modules or activities by the stated deadlines. Online modules require that the student have access to a computer that has the minimum configuration and software needed to complete the course activities (on-campus computer labs are available for student use). You will need internet access to reference content on the Canvas learning management system and other textbook related resources. Information on how to be successful in a digital learning environment can be found at Learn Anywhere (https://online.unt.edu/learn).

STUDENT LEARNING OUTCOMES

Biological Sciences faculty at UNT have designed this course to prepare you for success armed with the fundamental knowledge of human science, and to help you understand physiological processes in relation to metabolism. After completing this course, students who take full advantage of their instructor's guidance will have the knowledge, skill, and ability to:

1. Compare and contrast the synthesis, storage, and transformation of macromolecules from which living organism harvest derive energy.
2. Explain the contribution of entropy, enthalpy and temperature of a macromolecule and water (associated and in bulk solvent) in a folded versus unfolded state.
3. Identify, draw (sketch) and know properties (functions) of biomacromolecules.
4. Draw primary structural features of carbohydrates, proteins and lipids, and understand how higher- level structural features are represented.
5. Predict the impact of structural substitution would have on macromolecule structure and function.
6. Understand the overall purpose, reactions, enzymes, and the integrated regulation of the metabolic pathways.
7. Assess how enzymes facilitate biochemical reactions.
8. Interpret graphs to understand (a) substrate–enzyme or inhibitor–enzyme interactions; (b) binding of oxygen to oxygen-binding proteins; and (c) the effects of regulatory molecules on protein function.
9. Explain how protein structures might change while retaining an evolutionarily conserved function.
10. Predict the sites and nature of regulation in pathways that transform energy.

ATTENDANCE POLICY

Attendance is mandatory for this course. Life happens! If problems arise with your attendance, please discuss the situation with me before you have three absences. I have great respect for students who are balancing the demands of their coursework with the responsibilities of caring for family members. If you run into challenges that require you to miss a class, please contact me. There may be some flexibility we can offer to support your academic success. You will be notified by Eagle Alert if there is a campus closing that will impact a class. The course schedule of class meetings is subject to change; please see the Campus Closures Policy (https://policy.unt.edu/policy/15-006).

BEFORE EACH CLASS

You will be well ahead to engage in and enjoy class discussions if you:

I. Access your Canvas daily for activities, updates, announcements and deadlines.
II. Visit Mastering Biology through Canvas to complete your assignments.
III. Have at least 3 questions to ask me from assigned readings and activities ready for next class.
IV. Be prepared to participate in class group activities.
V. Contact me at the earliest opportunity if you are having problems with the course work.

WHAT YOU SHOULD BRING TO EVERY CLASS MEETING

Being punctual indicates our respect for others. Please arrive before class begins to find a seat, prepare your materials, and connect with your peers. Make sure that you have:

A. Your copy of the textbook
B. Your questions from studying of the concept in focus
C. Outlines and course objectives from Canvas
D. Extra plain papers for drawings, notes, activities
E. 3 × 5 index cards (with or without lines)
F. Sticky notes (any color)
G. Bring your syllabus, notebook, calculator, a stapler, highlighter, pens and sharpened #2 pencils to class each day.
H. PollEverywhere devices (cell phones for polling or laptops for web access)
I. You! COME TO CLASS! Yes, with all civility, bring yourself, always arriving in class on time as a courtesy to others and in order not to disrupt the class.

CELL PHONES, PDAs, BEEPERS, AND OTHER ELECTRONIC DEVICES

While electronic devices are not completely prohibited, their use in class will be reserved and limited to in-class activities including polling or surveys. In respect of others, be sure to put your cell phones and beepers to "silent" mode. No Facebook checking or texting is permitted in class. All activities on PDAs must be class-related. I reserve the right to change this policy without further notice if any infringement or hindrance to other students' capacity to learn is observed. **However, no cell phones or PDAs are to be visible during any graded activity including quizzes and exams. Failure to observe this policy will result in a grade of zero (0) on that activity.**

EMAIL POLICY

Students must use a UNT email address to communicate with the instructor. Please note that emails originating from Yahoo!, Hotmail, Gmail, etc., may not be delivered or acknowledged.

COURSE EXPECTATIONS

This is a lecture course that requires on-campus attendance at regularly-scheduled face-to-face class meetings. Required coursework includes online learning activities accessed through Canvas, UNT's learning management system. Students require internet access on a laptop or desktop computer (not a mobile device). As with most college courses, it is expected that for every hour we spend in lecture, students will spend 2–3 hours outside of class preparing, studying, and completing assignments. Quizzes should be expected after every chapter taught. Exams are as on the course schedule.

- All work must be completed individually unless noted by the instructor.
- Any indication of plagiarism or cheating will result in a grade of zero and your assignment will be turned into the Office of Academic Integrity.
- Professionalism and confidentiality of proprietary information: We expect students to remain professional, respectful and courteous in all communication with other students and the instructor, including emails and discussion board postings. Please do not communicate any proprietary and/or confidential information from your present or previous employers and/or organizations. You may discuss any information that is in the public domain (e.g., websites, articles). Please consult your instructor if you have any questions.

COURSE FAQs

ABOUT …	YOUR RESPONSIBILITY	INSTRUCTOR'S	COMMENTS
Enrollment	Check that you are enrolled	Official roster will be used	Only names on official roster will receive a grade for semester
Attendance	Come to class and participate	Communicate in advance	See "Professionalism" under Grades and Grading
Citizenship	Respect instructor; respect classmates	Expected, monitored and graded	Attendance, active participation in class, and adherence to class rules
Attitudes & Behavior	Civility; no sleeping, talking, texting or distracting other students	Respect	Dressing appropriate to learning in academic environment required; remove sunglasses, caps and wave caps
Use of Cell Phones	Leave the classroom if you have an emergency	Texting not allowed.	Except for instruction only during polling
Absences/Late Class Arrival	Notify instructor **PRIOR** to absence	Point deduction; considered absent after day's quiz	Legitimacy at instructor's discretion; requires proper written documentation
Official Excuse	Turn in within 2 days of return to campus		Legitimacy at instructor's discretion- requires proper written documentation
Assignments Late Work		Not accepted	
Quizzes Make-ups		Not available	
In-class Activities Make-ups		Not available	
Final Exam Make-Up		Not Available	
Other Exam Make-ups	**Do not** make travel arrangements that will cause you to be **absent** from exams.	See "Make-Up" below	At instructor's discretion.
Graded Assignments	Review work instructor	Available after class or during office hours	Discarded after one week
Dropping of Lowest Test Grades		Not available	
Extra Credit	Requires extraordinary efforts above and beyond regular course work	Not available to individuals	If offered, it will be for the entire class
Study Guides	Build your study guide	See "Study Guides" info below	See "Study Guides" info below
Incomplete or "I" Grade	Passing at least 75% of coursework	According to the University policy. See https://registrar.unt.edu/grades/incompletes.html	At instructor's discretion
Pets or Children		Not allowed	

STUDY GUIDES

Research has shown that students who attend class are more likely to be successful. Students are strongly encouraged to prepare individual study guides by themselves as instruction is being provided in class. This has been scientifically proven to enhance learning. Students should use course objectives to build effective study guides for exams.

TUTORING

Consider using the several tutorial programs available on campus free of charge to students in need. You will be required to sign up for individual tutoring if you perform poorly on any quizzes or exam. If you are having problems attending the class and completing assignments, you will be referred to your advisor, and the instructor will follow up on the measures decided for improvements. See https://learningcenter.unt.edu/tutoring and https://cos.unt.edu/biology/undergraduate-programs/life-sciences-resource-center.html

NO extra credits will be assigned to individual students, and grades will not be curved due to several opportunities available to build your grade.

TENTATIVE COURSE SCHEDULE

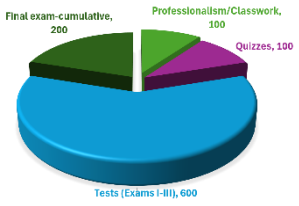
Module	Week	Date	Lecture	Chapter	Assessment
1	I	Aug. 17	01 Science of Biochemistry	1	**Pre-test/Professionalism**
		Aug. 19	02 Water	2	
	2	Aug. 24	03 Water	2	**eBook Chaps 1-2/Quiz 1**
		Aug. 26	04 Amino Acids and Peptides	3	
	3	Aug. 31	05 Amino Acids and Peptides	3	**eBook Chap 3**
		Sep. 2	06 3D Structure of Proteins	4	
	4	Sep. 7	*Labor Day – No Classes*		
		Sep. 9	07 3D Structure of Proteins	4	**eBook Chap 4/Quiz 2**
	5	Sep. 14	**Exam 1 (Lect. 01–07)**		**Exam 1 (Chaps. 1–4)**
2		Sep. 16	08 Protein Purification	5	**eBook Chap 5/Quiz 3**
	6	Sep. 21	09 Enzymes Kinetics and Inhibition	6	
		Sep. 23	10 Enzymes Kinetics and Inhibition	6	**eBook Chap 6**
	7	Sep. 28	11 Enzyme Mechanism and Control	7	
		Sep. 30	12 Enzyme Mechanism and Control	7	**eBook Chap 7/Quiz 4**
	8	Oct. 5	13 Lipids and Membranes	8	
		Oct. 7	14 Lipids and Membranes	8	**eBook Chap 8/Quiz 5**
3	9	Oct. 12	**Exam 2 (Lect. 08–14)**		**Exam 2 (Chaps. 5–8)**
		Oct. 14	15 Energy Changes and Transfer	15	**eBook Chap 15**
	10	Oct. 19	16 Carbohydrates	16	
		Oct. 21	17 Carbohydrates	16	**eBook Chap 16**
	11	Oct. 26	18 Glycolysis	17	
		Oct. 28	19 Glycolysis	17	**eBook Chap 17/Quiz 6**
4	12	Nov. 2	**Exam 3 (Lect. 15–19)**		**Exam 3 (Chaps. 15–17)**
		Nov. 4	20 Gluconeogenesis, PPP	18	
	13	Nov. 9	21 The Citric Acid Cycle	19	**eBook Chaps 18-19/Qz 7**
		Nov. 11	22 Electron Transport Chain	20	
	14	Nov. 16	23 Electron Transport Chain	20	**eBook Chap 20**
		Nov. 18	24 Lipid Metabolism	21	**eBook Chap 21/Quiz 8**
	15	Nov. 23	*Thanksgiving No Classes*		**Post-test/Professionalism**
		Nov. 25	*Thanksgiving No Classes*		
	16	Nov. 30	**Exam 4 (Lect. 20–24)**		**Exam 4 (Chaps. 18–21)**
		Dec. 2	Final Exam Review		
		Dec 9	**CUM. FINAL EXAM**	**All Chaps**	**8-10 AM Note Time Difference!**

GRADES AND GRADING

Conventional points and category weights are shown below. All assessments will cover material presented in lecture and the textbook.

A	900–1000
B	800–899.99
C	700–799.99
D	600–699.99
F	<599.99

Professionalism/Classwork	100 pts
Homework	100 pts
Tests (Exams I-III/Quizzes)	600 pts
Final exam-cumulative	200 pts
Total	**1000 pts**



Professionalism/Classwork: Worth 100 points. Professionalism is 70 points and includes timeliness on work and class attendance. Starting with the course contract of 7 points, 3 points are earned for each class meeting attended. No points will be awarded for excused/unexcused absences. Classwork includes work on Canvas and in class. Worth 30 points.
Quizzes: Worth 100 maximum points. An extra quiz may be offered to drop a low grade.
Exams: Three exams, worth 200 points each; will be in class. The fourth exam will allow dropping the lowest score.

Final Cumulative Exams: Worth 200 points; will be in class. The comprehensive final exam cannot be dropped.
Extra credits: If offered, this will be for the entire class and will not exceed 30 total points.

EXAM FORMAT

Exams: Exams in this course are designed based on the course objectives to assess your accumulation of concepts the necessary to your success in the next phase of your career. Exams may be essay, short answer, and/or multiple-choice type questions. These are not cumulative and will cover only the materials specified on the course schedule. Everyone is expected to be present for these exams at the time they are given. All make-up exams are at the instructor's discretion as described above. There are no bathroom breaks during any examinations.
The Final Exam: **The final exam will be cumulative (comprehensive) and will be scheduled as dictated by the university. There will be no makeup of the final exam. There are no bathroom breaks during any examinations.**

MAKE-UP POINT DEDUCTION SYSTEM

No make-up for final exams. For all other tests (Exams I–IV), you are allowed to makeup **BEFORE** the exam day with an official excuse. The following deduction system will apply to other tests (Exams I–IV) when excuses are presented **AFTER** exam has been given to the class.

Day	1 (Test Day)	2	3	4	5	6	7
Deduction	20%	5%	5%	5%	5%	5%	5%

TEAM-BASED LEARNING AND WHAT TO EXPECT DURING CLASS MEETINGS

Tons of scientific data supports the fact that students learn better in groups and teams. The success of a group or team is, however, strongly dependent on individual contributions amongst other factors. I will be your instructor and a facilitator of your learning; but whether or not you learn will be a result of what you put into your own learning process. In this course, the teaching strategy may involve dividing the entire class into teams. Teams will be given assigned readings expected to be completed in/out of class. Team-based learning sessions may occur at least two times during the course. This may involve:

- A short in-class individual assessment, designed to test your preparedness for the team-based learning session.
- Team-based assessment based on assigned activity or reading.
- A group learning problem will then be given to each team followed by a class discussion of the problem.

STUDY HINTS FOR SUCCESS

1. Read your textbook assigned readings *before* class. Be an active reader. Read first for pleasure. Then read again for detail, with pen, paper, highlighters. (45 mins)
2. Attend class, pay attention, ask questions, and participate.
3. Take notes, not just in your mind. The pen is the master of the brain (a Chinese proverb). Write your notes down both in class and during self-study! (15 mins)
4. Review your notes in multiple ways. Concepts stick better with repetitive review (30 mins).
    a. Read it in the book
    b. Hear it in class
    c. Review your notes.
    d. Review PowerPoints slides.
    e. Make your own flashcards.
    f. Discuss new topics with friends and family. You will be surprised by what Grandma knows!
    g. Rewrite outlines.
    h. Teach it to a friend.
    i. Explain it to the wall or bathroom mirror!
    j. Design quizzes for yourself or a friend to do later.
5. Review your notes *after* each class (over lunch or snack break or on the bus) - a habit that is critical to success. (10–15mins)
6. Find a study pal or group. Change, if your study buddy is not consistent! Compare and contrast what you learn. Think about your thoughts on new concepts. Integrate, attach and connect new information to your knowledge base. Cross-check with textbook and instructor.
7. Discuss materials and concerns with instructor ASAP.
8. Uphold UNT Honor Code. Report violations you observe.
9. Use tutoring services as available.

10. Get plenty of sleep before exams.
11. How to prepare for exams once you have been faithful to hints 1–10 above
    a. Test your knowledge in the style of the exams with old exams samples
    b. Re-do practice quizzes and assignments and optional assignments
    c. Explain your choices before making a final decision
    d. Get a lot of rest!
12. We are in this together. Come talk with me!

WITHDRAWAL POLICY

See the current UNT calendar for the last day to withdraw. Dropping a class means that you remove yourself from the class up to the census date. Dropped classes do not appear on your official transcript. You may now drop online up to the census date. The last date to drop this class is August 28, 2026. Withdrawal from a class means that you remove yourself from the class after the census date. Withdrawn classes appear as a *W* on your official transcript but are not calculated in your grade point average. Withdrawals are not permitted online. Please read the Fall 2026 Registration guide or contact the admissions office for information on how to withdraw. The last date to withdraw from this class is Nov. 6, 2026. See https://registrar.unt.edu/registration/spring-academic-calendar.html

UNT CODE OF STUDENT CONDUCT

Every student in my class can improve by doing their own work and trying their hardest with access to appropriate resources. Students caught cheating on any exam/quiz will receive a "0" for that particular exam and will not be able to drop that grade. The incident will be reported to the Dean of Students, who may impose further penalties. According to the UNT catalog, the term "cheating" includes, but is not limited to: a. use of any unauthorized assistance in taking quizzes, tests, or examinations; b. dependence upon the aid of sources beyond those authorized by the instructor; c. the acquisition, without permission, of tests or other academic material belonging to a faculty or staff member of the university; d. any other act designed to give a student an unfair advantage. Students who use other people's work without citations will be violating UNT's Code of Student Conduct (https://policy.unt.edu/policy/06-003). For more information on UNT Code of Student Conduct, please visit https://policy.unt.edu/policy/07-012.

UNAUTHORIZED AIDS DURING EXAMINATIONS AND ASSESSMENTS

Students may use only those materials and resources that are expressly authorized by the instructor for a particular examination or assessment. Touching, holding, or accessing any unauthorized aid during the examination period constitutes a violation of the Student Code of Conduct, regardless of whether the aid is used. Any item that may be considered an unauthorized aid must be kept out of view and in a closed container (e.g., zipped backpack, buttoned purse, etc.) during the entirety of the examination or assessment.

Unless specifically authorized in writing by the instructor, prohibited aids include, but are not limited to:

- Mobile phones and smartphones
- Smartwatches and fitness trackers with communication, recording, or internet capabilities
- Tablets, laptops, and other computing devices
- Earbuds, headphones, and other audio devices
- Smart glasses, cameras, recording devices, and wearable technology
- Artificial intelligence (AI) tools, chatbots, and other generative AI technologies
- Notes, textbooks, study guides, formula sheets, or reference materials
- Any other device, material, or resource not expressly permitted by the instructor

Students are responsible for clarifying any questions about permitted materials before the examination begins.

STUDENTS WITH DISABILITIES

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking reasonable accommodation must first register with the Office of Disability Access (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with a reasonable accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request reasonable accommodations at any time; however, ODA notices of reasonable 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 reasonable accommodation for every semester and must meet with each faculty member prior to implementation in each class. Students are strongly encouraged to deliver letters of reasonable accommodation during faculty office hours or by appointment. Faculty members have the authority to ask students to discuss such letters during their designated office hours to protect the privacy of the student. For additional information, refer to the Office of Disability Access website

(https://studentaffairs.unt.edu/office-disability-access). You may also contact ODA by phone at (940) 565-4323.

NOTE: The professor has the right to revise the contents of the syllabus. Notification of any changes will be made in class, by e-mail, and on Canvas.

Your viewing of this syllabus constitutes your signature testifying to your understanding and acceptance of the course policies set herein.