

**CHEM 417: Advanced Biochemistry  
Course Syllabus  
Fall 2026**

**INSTRUCTOR INFORMATION**

**Instructor:** Dr. Olamide Ishola

**Office:** STC 334

**E-mail:** olamide.ishola@etamu.edu

**Phone:** 903-886-5392

**Office Hours:** MTR: 9:00am-10:30am or by appointment.

**Class Meetings:** TR 6:00pm-7:15pm **Location:** STC 122

**COURSE INFORMATION**

**Required Text Book:** Principles of Biochemistry, 5th edition, Authors: Horton, Moran, et. al., ISBN: 978-0-321-70733-8

**Course Description:** Advanced study of biochemistry from the standpoint of interrelationships between metabolic pathways and control mechanisms. Topics to be covered include the metabolism of carbohydrates anaerobically and aerobically, ATP synthesis and the metabolism of lipids, amino acids as well as nucleotides.

**Course Definition:** The biochemical function and regulation of metabolic pathways in the synthesis and degradation of biopolymers as well as the transfer of genetic information in living organisms. This course is intended for students majoring in chemistry and the life sciences especially those students seeking scientific, medical, or similar professional careers.

**Credits:** 3 Course Credits.

**Prerequisites or Co-requisites:** CHEM 314, CHEM 414 or consent of the instructor.

**Student Learning Outcomes (SLO):** The main objectives of this course are to provide an advanced understanding of the principles of modern biochemistry necessary for further work in the biochemical/biomedical areas. Unlike much earlier chemistry, the material is often conceptually complex and not yet amenable to straightforward mathematical interpretation. Accordingly, the students may find the material more heavily descriptive than in their earlier chemical studies. By the end of this course the students will have a better understanding of the structure and function of macromolecules in metabolism relative to biosynthesis and degradation. At the completion of this course students will be able to:

- Understand the concept of a metabolic pathway.
- Understand the biosynthesis and degradation of complex lipids.
- Understand the biosynthesis and degradation of proteins.
- Understand the biosynthesis of pyrimidine and purine nucleotides, RNA and DNA.

- Comprehend how RNA and DNA are degraded to nucleotides.
- Comprehend how purine and pyrimidine nucleotides are degraded to a source of carbon and nitrogen.
- Be able to relate the importance of biochemical and metabolic concepts to other scientific disciplines as well as to its role in daily lives.

### COURSE REQUIREMENTS

**Instructional Methods:** Face to face in classroom and laboratory settings. Course structure will involve assessment using exams and laboratory reports at designated dates during the semester.

**Student Responsibilities for Success in Course:** Students should review notes daily and become familiar with the advanced concepts of biochemistry being presented to them. Waiting until the day before the exam to study the material covered is not a successful approach.

### GRADING

**Final grades in this course will be based on the following scale:**

A = 90%-100%

B = 80%-89%

C = 70%-79%

D = 60%-69%

F = 59% or below

A = 90-100 points

B = 80-89 points

C = 70-79 points

D = 60-69 points

F = 59 points or below

For students enrolled in CHEM 417, your final grade will be based on your performance in 3 out of 4 exams (25% each) and the final exam (25%). Your course grade will be based on 3 in-class exams (0.25 x exam grade) out of 4 representing 75% of your total course grade. The final comprehensive examination will represent 25% of your course grade (0.25 x final exam grade). *No make-up exams will be allowed. You will be allowed to drop one of the first 4 exams if you are not absent more than 8 lectures during the semester.*

### COURSE CALENDAR FOR CHEM 417

Date/Chapter

#### August

20-Review of Basic Biochemistry

25-Review of Basic Biochemistry

27-Review of Basic Biochemistry

#### September

1-Review of Basic Biochemistry

3-Review of Basic Biochemistry

8-Review of Basic Biochemistry

10-Review of Basic Biochemistry

15-Review of Basic Biochemistry

**17-EXAM 1 (Thursday)**

22-Chapter 10

24-Chapter 11

29-Chapter 11

**October**

1-Chapter 11

6-Chapter 12

8-Chapter 12

13-Chapter 13

15-Chapter 13

**20-EXAM 2 (Tuesday)**

22-Chapter 14

27-Chapter 14

29-Chapter 16

**November**

3-Chapter 16

5-Chapter 16

10-Chapter 16

**12-EXAM 3 (Thursday)**

17-Chapter 17

19-Chapter 17

24-Chapter 18

**26-28 No Class – Thanksgiving Holiday**

**December**

2-Chapter 18

**4-EXAM 4 (Thursday)**

**8-FINAL EXAM**

**All dates and assignments of syllabus schedule for CHEM 417 are tentative and subject to change.**

## TECHNOLOGY REQUIREMENTS

### LMS

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

#### LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu)

## ACCESS AND NAVIGATION

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@etamu.edu](mailto:helpdesk@etamu.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

### **COMMUNICATION AND SUPPORT**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

#### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### **STUDENT RESPONSIBILITIES FOR COURSE**

#### **CWID and Password**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@etamu.edu](mailto:helpdesk@etamu.edu).

#### **Technology-Related Issues**

Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a ETAMU campus open computer lab, etc.

### **TECHNOLOGY REQUIREMENTS AND SUPPORT**

#### **Minimal Technical Skills Needed**

Students will need reliable computer and internet access for this course. Students must be able to effectively use myLeo email, myLeo Online D2L, and Microsoft Office.

#### **Learning Management System (LMS) – D2L**

All course sections offered by East Texas A&M University have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are the technical requirements:

- View the [Learning Management System Requirements Webpage](#).
- Learn more on the [LMS Browser Support Webpage](#).

#### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found on the [Brightspace Support Webpage](#).

**COMMUNICATION AND SUPPORT****Interaction with Instructor Statement**

If you have any questions or are having difficulties with the course material, please contact your instructor. Correspondence will always be through university email (your “myLeo” mail) and announcements in myLeo online (D2L). You will not RECEIVE email through D2L, so be sure to check your ETAMU email for communication. Students are encouraged to check university email daily.

**Include the Following in Emails with Instructor:**

- Course name and subject in the subject line
- Salutation (Good afternoon, Dr. Jackson)
- Proper email etiquette (no “text” emails – use proper grammar and punctuation)
- Student name and CWID after the body of the email (possibly add to student signature on email)

**COURSE AND UNIVERSITY PROCEDURES/POLICIES****Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

**Student Conduct**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The [Code of Student Conduct](#) is described in detail online in the [Student Guidebook](#).

Students should also consult the [Rules of Netiquette Webpage](#) for more information regarding how to interact with students in an online forum.

**ETAMU Attendance**

For more information about the attendance policy, please view the Attendance Webpage and the Class Attendance Policy. <https://www.etamu.edu/attendance/> [https://coursecatalog.tamuc.edu/undergrad/academic-procedures/#class\\_attendance\\_rule](https://coursecatalog.tamuc.edu/undergrad/academic-procedures/#class_attendance_rule)

**Academic Integrity**

Students at East Texas A&M University are expected to maintain high standards of integrity and honesty in all their scholastic work. For more details and the definition of academic dishonesty see the following procedures: [Undergraduate Academic Dishonesty University Procedure 13.99.99.R0.03](#)  
[Undergraduate Student Academic Dishonesty Form](#)  
[Graduate Student Academic Dishonesty University Procedure 13.99.99.R0.10](#)  
[Graduate Student Academic Dishonesty Form](#)

**Use of Artificial Intelligence**

East Texas A&M University acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.

Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).

Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.

In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources

### **Students with Disabilities-- ADA Statement**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

### **Office of Student Disability Resources and Services**

East Texas A&M University  
Velma K. Waters Library Rm 162  
Phone (903) 886-5150 or (903) 886-5835  
Fax (903) 468-8148  
Email: [studentdisabilityservices@etamu.edu](mailto:studentdisabilityservices@etamu.edu)  
Website: [Office of Student Disability Services](#)

### **Nondiscrimination Notice**

East Texas A&M University will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information, or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **Campus Concealed Carry Statement**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in East Texas A&M University buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and ETAMU Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations.

For a list of locations, please refer to the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all East Texas A&M University campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **East Texas A&M Supports Students' Mental Health – Counseling Services**

The Counseling Center at East Texas A&M University, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **Mental Health and Well-Being**

The university aims to provide students with essential knowledge and tools to understand and support mental health. As part of our commitment to your well-being, we offer access to Telus Health, a service available 24/7/365 via chat, phone, or webinar. Scan the QR code to download the app and explore the resources available

to you for guidance and support whenever you need it.



<http://telusproduction.com/app/5108.html>