

**CHEM 314: General Biochemistry  
Course Syllabus, Summer I 2024**

**INSTRUCTOR INFORMATION**

**Instructor: Dr. Thomas West**

**Office:** STC 302

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**Phone:** 903-886-5399

**FAX:** 903-468-6020

**Office Hours:** By appointment.

**Preferred Form of Communication:** email

**Response Time:** Within 48 hours

**COURSE INFORMATION**

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

**Course Description:** This is a one-semester biochemistry course that serves as an introduction to the nomenclature and function of the major classes of molecules associated with living organisms. The subject matter is tailored for students interested in pharmacy, dentistry, medicine, and related health science disciplines that need a lecture course in biochemistry with no laboratory. The course topics will be presented along with examples where basic knowledge in the field of biochemistry is relevant for the practice of modern medicinal chemistry and pharmacy.

**Course Definition**

Structure and function of large and small biomolecules involved in metabolism and information transfer in living organisms. The course treats both chemical and biological processes and their mechanisms. For students majoring in health-related disciplines but not requiring an accompanying laboratory.

**Credits:** 3 Course Credits

**Prerequisites or Co-requisites:** Prerequisites: BSC 101 Minimum Grade C or BSC 1406 (Minimum Grade C) and BSC 102 Minimum Grade C or BSC 1407 (Minimum Grade C) and CHEM 212 or CHEM 2323/2123 (Minimum Grade C).

**Student Learning Outcomes (SLO):** The main objectives of this course are to provide a basic foundation and 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 the biological macromolecules its metabolism and biosynthesis.

At the completion of this course students will be able to:

- Identify various biomolecules (amino acids, nucleotides, sugars, fatty acids).
- Understand complex biomolecule structure (proteins, nucleic acids, carbohydrates, lipids).
- Understand the concept of metabolic pathways relative to the synthesis of biomolecules.
- Understand the function of enzymes, their mechanisms and how their importance to the concept of metabolism.
- Comprehension of membrane structure and function.
- Understand key metabolic pathways such as glycolysis, gluconeogenesis and the citric acid cycle.
- Be able to relate the importance of biochemical concepts to other scientific disciplines as well as to its role in daily lives.

## COURSE REQUIREMENTS

### ATTENDANCE POLICY

All students are expected to attend online classes on a regular basis. According to the TAMU-Commerce Procedure A13.02, if a student has excessive absences, the instructor may drop the student from the course. The instructor will only excuse an absence if the student provides, with appropriate document, an excusable reason allowed by the TAMU-Commerce Procedure A13.02.

**Instructional Methods:** Online setting. Course structure will involve assessment-using exams at designated dates during the semester.

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

### Exams

For students enrolled in CHEM 314, 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 online 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). The exams will contain a mix of objective and subjective question (multiple-choice questions, true-false questions, long (explanation) questions, short (formulas and definitions) questions and graphical/diagrammatic questions. *No make-up exams will be allowed since you will be allowed to drop one of the first 4 exams during the semester.* **Extra credit assignments will NOT be provided during this course. The last day to drop with a Q grade is Thursday, June 20.**

## 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

### COURSE CALENDAR FOR CHEM 314

All dates and assignments are tentative and subject to change.

Date	Unit	Textbook Chapter
Week 1 (6/3)	<b>Unit 1</b>	Syllabus; Introduction
Week 1 (6/4)	<b>Unit 2</b>	Chapter 1
Week 1 (6/5)	<b>Unit 3</b>	Chapter 2
Week 1 (6/6)	<b>Unit 4</b>	Chapter 3
<b>Exam 1 (Friday, 6/7)</b>		
Week 2 (6/10)	<b>Unit 5</b>	Chapter 4
Week 2 (6/11)	<b>Unit 6</b>	Chapter 5
Week 2 (6/12)	<b>Unit 7</b>	Chapter 6
Week 2 (6/13)	<b>Unit 8</b>	Chapter 7
<b>Exam 2 (Friday, 6/14)</b>		
Week 3 (6/17)	<b>Unit 9</b>	Chapter 8
Week 3 (6/18)	<b>Unit 10</b>	Chapter 9
<b>Wednesday, 6/19</b>		<b>Emancipation Day</b>
Week 3 (6/20)- <b>Last day to drop with a "Q"</b>	<b>Unit 11</b>	Chapter 9
<b>Exam 3 (Friday, 6/21)</b>		
Week 4 (6/24)	<b>Unit 12</b>	Chapter 10
Week 4 (6/25)	<b>Unit 13</b>	Chapter 11
Week 4 (6/25)	<b>Unit 14</b>	Chapter 12
Week 4 (6/26)	<b>Unit 15</b>	Chapter 13
Week 5 (7/1)	<b>Unit 16</b>	Chapter 14
<b>Exam 4 (Tuesday, 7/2)</b>		
<b>Cumulative Final Exam (Wednesday, July 3)</b>		

### TECHNOLOGY REQUIREMENTS

#### LMS

All course sections offered by Texas A&M University-Commerce 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)

YouSeeU Virtual Classroom Requirements:

<https://support.youseeu.com/hc/en-us/articles/115007031107-Basic-System-Requirements>

## 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@tamuc.edu](mailto:helpdesk@tamuc.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 TAMUC campus open computer lab, etc.

## COMMUNICATION AND SUPPORT

The best way to communicate with the instructor is via e-mail: [thomas.west@tamuc.edu](mailto:thomas.west@tamuc.edu).

### 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>

## COURSE AND UNIVERSITY PROCEDURE/POLICIES

### COURSE SPECIFIC PROCEDURES

#### Syllabus Change Policy

The syllabus is a guide. Circumstances and events 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.

### UNIVERSITY SPECIFIC PROCEDURES

#### 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 in the **Student Guidebook**.

<http://www.tamuc.edu/Admissions/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: <https://www.britannica.com/topic/netiquette>

### **TAMUC Attendance**

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

### **Academic Integrity**

Academic Integrity Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Graduate Student Academic Dishonesty 13.99.99.R0.10

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

### **ADA Statement**

#### **Students with disabilities**

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**

Texas A&M University-Commerce

Waters Library, Room 162

Phone: (903) 886-5150 or (903) 886-5835

Fax: (903) 468-8148

E-Mail: [StudentDisabilityServices@tamuc.edu](mailto:StudentDisabilityServices@tamuc.edu)

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

Please advise the instructor of any special problems or needs at the beginning of the semester.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, 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)

### **Nondiscrimination Notice**

Texas A&M University-Commerce 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, 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**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce 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 A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to

(<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

### **AI Use Policy**

Texas A&M University-Commerce 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.

13.99.99.R0.03 Undergraduate Academic Dishonesty

13.99.99.R0.10 Graduate Student Academic Dishonesty