Instructor: Dr. Edith Osborne
Email: edith.osborne@angelo.edu
Phone: 325-486-6629
Office: Cav 218

Office Hours: MWF 11-11:50 and Tues 10-11 or by appointment

Course Information

Course Time and Location
MWF 10:00 am – 10:50 am in Cavness 215

Course Description
Coordinated examination of enzymatic processes in the living cell.

Prerequisite and Co-requisite Courses
CHEM 4331 Biochemistry

Student Learning Outcomes
After completion of this course students will be able to:

- analyze complex chemical problems and draw logical conclusions.
- understand and apply scientific reasoning in the chemical sciences.
- demonstrate technical and analytical skills in chemistry and biochemistry.

Course Objectives
During this course, students will be:

- Gaining factual knowledge (terminology, classifications, methods, trends)
- Learning fundamental principles, generalizations, or theories
- Learning to apply course materials (to improve rational thinking, problem solving and decisions)
**Course Delivery**

This course will use a split delivery model that combines face-to-face teaching with synchronous remote instruction. The goal is to provide face-to-face instruction to students who want to return to campus, while also allowing students who may need to learn remotely to participate via virtual class sessions. Due to the small size of this class, all students can attend face-to-face. Whether students attend face-to-face or remotely, class participation will be required. All quizzes and exams will be given face-to-face unless there are extenuating circumstances.

When you are not in the physical class, you will attend live remote sessions at the same time as our scheduled course. You will also be expected to complete coursework via Blackboard.¹

Please refer to this Health and Safety web page² for updated information about campus guidelines as they relate to the COVID-19 pandemic.

**Required Texts and Materials**


**Technology Requirements**

To successfully complete this course, students need to purchase access to Sapling Plus, including David L. Nelson and Michael M. Cox, Lehninger Principles of Biochemistry 7th ed. This is a combination of online and an ebook.

While some exams and quizzes will be given face-to-face, access to some exams and quizzes will be through Respondus Lockdown Browser and will be video recorded via Respondus Monitor. Respondus requires a desktop computer or laptop (not a Chromebook) and a webcam. For best results, use an ethernet cable to connect to your Internet source instead of relying on Wifi. Refer to the Blackboard course for Respondus installation instructions. Respondus monitor requires the use of a web cam to record video.

You also need access to a printer. You will be required to print some documents, complete them by hand, and then scan them in using a scanner or smartphone. You will then need to be able to create a pdf and upload it to Blackboard.
**Communication**

Faculty will respond to email and/or telephone messages within 24 hours during working hours Monday through Friday. Weekend messages may not be returned until Monday.

**Written communication via email:** All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line.

**Virtual communication:** Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

**Grading**

**Evaluation and Grades**

Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Percent of Total Grade</th>
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<tbody>
<tr>
<td>Activities and homework</td>
<td>15</td>
</tr>
<tr>
<td>Paper and presentation</td>
<td>5</td>
</tr>
<tr>
<td>Regular exams (100 points each)</td>
<td>40</td>
</tr>
<tr>
<td>Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>Comprehensive final exam</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

**Grading System**

Course grades will be dependent upon completing course requirements and meeting the student learning outcomes.

The following grading scale is in use for this course:

- A ≥ 90%
- B ≥ 80%
- C ≥ 70%
- D ≥ 60%
- F < 60% (Grades are not rounded up)

**Assignment and Activity Descriptions**

Exams: There will be three 100 point regular exams during the semester and a comprehensive final exam of 150 points during the final exam period. Exam questions
may be multiple choice, short answer, matching, and may require application of the covered material. Due to the cumulative nature of the course, some concepts from previous chapters may be necessary to solve problems in later chapters. Exams will not be curved. During exams, all items except your nonprogrammable calculator and pencil will be placed at the front of the room. You may not wear hats during the exam.

Make-up exams: No make-up exams will be given except for university-sponsored events. If you miss an exam for an accepted excuse, i.e. a death in your family or personal illness, the final exam score will be used to replace the missed exam. Only one exam can be replaced in this fashion. If you miss two exams, you will not pass the course. If you miss the final, you will not pass the course. If you have taken the three hour exams, you may use the final exam percentage score to replace your lowest exam score. Example: your exams are 60 pts, 70 pts, and 80 pts and your final is 100 pts. The final exam is worth 150 points, so 100 points is $\frac{100}{150} \times 100 = 67\%$, so you can replace the 40 pt exam with 67 pts.

Quizzes: Quizzes on selected pathways will be given throughout the semester. On the pathway quizzes, you will draw out the selected pathway in its entirety. This will allow more time for fair evaluation of other important course materials on the exams. No reference materials (notes, worked problems or text) may be used on paper quizzes. The lowest two quiz scores will be dropped. Quizzes missed for university-sponsored events or other excused absences must be made up within one week of the missed quiz.

Homework and activities: Online homework from Sapling Learning will be assigned. There will also be some on-line activities and homework on Blackboard. In calculating your grade, I will drop 10% of this category of points and normalize to 50 points for the category.

Paper and presentation: Information from reputable websites (MedlinePlus, Protein Databank, NIH, pharmaceutical manufacturers), texts, and peer-reviewed journal articles will be used to write a short paper and prepare a short presentation to describe a metabolism related topic. More information about the assignment will be posted on Blackboard.

Grading corrections: Any discussion of corrections must be made within three weekdays of the return of the assignment.

Courtesy: For in class activities, please be on time, refrain from eating, and turn off cell phones. Attendance will be taken at the beginning of each face to face meeting.
General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook
- Angelo State University Catalog

**Academic Integrity**

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject to disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university’s Statement of Academic Integrity.

**Accommodations for Students with Disabilities**

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student’s responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website.

The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112
Incomplete Grade Policy
It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures for more information.

Plagiarism
Plagiarism is a serious topic covered in ASU’s Academic Integrity policy in the Student Handbook. Plagiarism is the action or practice of taking someone else’s work, idea, etc., and passing it off as one’s own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.

Student Absence for Observance of Religious Holy Days
A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day for more information.

Title IX at Angelo State University
The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU’s Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Miller, J.D.
Special Assistant to the President and Title IX Coordinator
You may also file a report online\(^\text{11}\) 24/7.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information, visit the Title IX website.\(^\text{12}\)

**Required Use of Masks/Facial Coverings by Students**

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory [Facial Covering Policy]\(^\text{13}\) to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

**Modifications to the Syllabus**

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

**Course Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
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<tbody>
<tr>
<td>January 25</td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Chapter 11 Biological Membranes and Transport</td>
</tr>
<tr>
<td>February 1</td>
<td>Ch 11 continued</td>
</tr>
<tr>
<td>Date</td>
<td>Chapter/Section</td>
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<tr>
<td>February 8</td>
<td>Ch 12 Biosignalling</td>
</tr>
<tr>
<td></td>
<td><strong>February 9: Metabolism Paper Topic Due</strong></td>
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<tr>
<td>February 15</td>
<td>Ch 12 continued</td>
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<tr>
<td></td>
<td>Chapter 13 Bioenergetics and Biochemical Reaction Types</td>
</tr>
<tr>
<td>February 22</td>
<td>Ch 13 continued</td>
</tr>
<tr>
<td></td>
<td>Chapter 14 Glycolysis, Gluconeogenesis, and the Pentose Phosphate Pathway</td>
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<tr>
<td></td>
<td>Exam One, Chapter 11-13</td>
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<tr>
<td>March 1</td>
<td>Ch 14 continued</td>
</tr>
<tr>
<td></td>
<td>Chapter 15 Principles of Metabolic Regulation</td>
</tr>
<tr>
<td>March 8</td>
<td>Chapter 16 The Citric Acid Cycle</td>
</tr>
<tr>
<td>March 15</td>
<td>Chapter 17 Fatty Acid Catabolism</td>
</tr>
<tr>
<td>March 22</td>
<td>Chapter 18 Amino Acid Oxidation and the Production of Urea</td>
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<td></td>
<td><strong>Exam Two</strong></td>
</tr>
<tr>
<td>March 29</td>
<td>Chapter 19 Oxidative Phosphorylation</td>
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<td></td>
<td><strong>April 2: Spring holiday</strong></td>
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<tr>
<td>April 5</td>
<td>Chapter 19 continued</td>
</tr>
<tr>
<td>April 12</td>
<td>Chapter 21 Lipid Biosynthesis</td>
</tr>
<tr>
<td>April 19</td>
<td>Chapter 22 Biosynthesis of Amino Acids, Nucleotides, and Related Molecules</td>
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<tr>
<td></td>
<td>Exam Three</td>
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<tr>
<td>April 26</td>
<td>Chapter 23 Hormonal Regulation and Integration of Mammalian Metabolism</td>
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<tr>
<td></td>
<td><strong>April 30: Last Day to Drop</strong></td>
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<tr>
<td>May 3</td>
<td>Ch 23 continued</td>
</tr>
<tr>
<td>May 10</td>
<td>Final Exam – Monday, May 10 at 10:30 am</td>
</tr>
</tbody>
</table>

1. https://angelo.blackboard.com/
4. https://www.angelo.edu/academics/catalog/
6. https://www.angelo.edu/current-students/disability-services/
7. https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
10. https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
11. http://www.angelo.edu/incident-form
12. https://www.angelo.edu/title-ix