

CHEM 4301

Chemistry Capstone



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Office Hours: T 10-noon, WF 11-noon, T 1-2, or by appointment

Course Information

Course Time and Location

MWF 9:00 am – 9:50 am in Cavness 215

Course Description

A critical review of chemical topics that requires students to integrate the knowledge and skills introduced across the curriculum. The capstone experience requires technical writing and verbal presentation.

Prerequisite and Co-requisite Courses

Must be taken in the spring semester before graduation.

Prerequisite Skills

Accessing Internet websites, using ASU Library resources, and proficiency with Microsoft Word and/or PowerPoint are expectations of CHEM 4301.

Student Learning Outcomes

Upon completion of this course, students will be able to:

- Demonstrate technical, analytical, and communication skills in the area of chemistry and biochemistry.
- Analyze complex chemical problems and draw logical conclusions.
- Evaluate and propose solutions to problems in professional ethics.

Course Objectives

During this course, students will be:

- Learning to apply course material (to improve thinking, problem solving, and decisions)
- Developing skills in expressing oneself orally or in writing
- Learning how to find and use resources for answering questions or solving problems

Course Delivery

This is a blended course with roughly 60% of the course delivered online via [Blackboard](#).¹ The class will include online activities, and it will also require attending in class presentations by guest speakers and by class members. Please pay close attention to the course calendar in Blackboard, which may be adjusted during the semester due to the availability of in class presenters.

Required Texts and Materials

No required textbook.

Technology Requirements

To successfully complete this course, students need to have access to a computer with the Microsoft Office Suite, including Word, Excel, and Powerpoint. Students will also need access to the internet, a webcam, and the ability to download some free, open source software during the semester. The ability to print documents may also be required.

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.

Assessment	Percent of Total Grade
Activities and homework	30%
Review Article	25%
Presentations	25%
Face to Face Attendance and Participation	10%
MFT in Chemistry (participation mandatory)	10%
Total	100%

Grading System

Course grades will depend on 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

The online activities and guest lectures will be structured to include student participation, and participation will be assessed as part of the course grade.

The scores for the review article and for the presentations include progress assignments, such a topic selection, outline, and first submission.

The MFT (Major Field Test) points received in this class are for completion of the MFT in Chemistry. The actual points received on the MFT exam will not be included in the Capstone course score. Taking the MFT is mandatory to receive a grade in the class and for graduation.

Late assignments: All assignments will be due at the beginning of class or at a designated time on Blackboard. Late assignments will not be accepted.

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](#)²
- [Angelo State University Catalog](#)³

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 of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's [Statement of Academic Integrity](#).⁴

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](#).⁵

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

Dr. 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](#)⁶ for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)⁷ 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](#).⁸

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](#)⁹ for more information.

Title IX at Angelo State University

Angelo State University is committed to providing and strengthening an educational, working, and living environment where students, faculty, staff, and visitors are free from sex discrimination of any kind. In accordance with Title VII, Title IX, the Violence Against Women Act (VAWA), the Campus Sexual Violence Elimination Act (SaVE), and other federal and state laws, the University prohibits discrimination based on sex, which includes pregnancy, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination and unwelcome behavior of a sexual nature. The term includes sexual harassment, nonconsensual sexual contact, nonconsensual sexual intercourse, sexual assault, sexual exploitation, stalking, public indecency, interpersonal violence (domestic violence or dating violence), sexual violence, and any other misconduct based on sex.

You are encouraged to report any incidents involving sexual misconduct to the Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator, Michelle Miller, J.D. You may submit reports in the following manner:

Online: [Incident Reporting Form](#)¹⁰

Face to Face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: michelle.miller@angelo.edu

Note, as a faculty member at Angelo State, I am a mandatory reporter and must report incidents involving sexual misconduct to the Title IX Coordinator. Should you wish to speak to someone in confidence about an issue, you may contact the University Counseling Center (325-942-2371), the 24-Hour Crisis Helpline (325-486-6345), or the University Health Clinic (325-942-2171).

For more information about resources related to sexual misconduct, Title IX, or Angelo State's policy please visit the [Title IX website](#).¹¹

Information About COVID-19

Please refer to ASU's [COVID-19 \(Coronavirus\) Updates](#)¹² web page for current information about campus guidelines and safety standards as they relate to the COVID-19 pandemic.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification on potentially short notice based on developing circumstances.

Course Schedule

Week of	Topic
January 17	Types of Sources
January 24	Library Resources
January 31	Literature Searching and Databases February 2: Review Article Topic Due
February 7	Plagiarism Presentations and Powerpoints February 7: Submit journal club article February 9: Review Article Outline Due
February 14	Journal Club Presentations
February 21	Figure drawing with Powerpoint

	Figure drawing with Inkscape
February 28	Introduction to grants Research compliance Approximately March 1: MFT Information Posted on ASU Testing Center Web Page
March 7	Grants continued March 9: Submit 1000 words of review
March 14	Spring Break
March 21	Logical Arguments March 25: Submit grant budget
March 28	March 30: Submit Review article for Peer Feedback
April 4	Resumes, CVs, cover letters, job searching, applications
April 11	April 11: Submit Final Review Article April 13: Submit Review Article Seminar Powerpoint
April 18	Review Article Seminars
April 25	Review Article Seminars April 28: Last Day to Drop
May 2	Professional Ethics: Case Studies

¹ <https://blackboard.angelo.edu/>

² <https://www.angelo.edu/current-students/student-handbook/>

³ <https://www.angelo.edu/academics/catalog/>

⁴ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=97>

⁵ <https://www.angelo.edu/current-students/disability-services/>

⁶ <https://angelo.policystat.com/policy/10659448/latest/>

⁷ <https://www.angelo.edu/live/files/27603-student-handbook-2020-21#page=96>

⁸ https://www.angelo.edu/current-students/writing-center/academic_honesty.php

⁹ <https://angelo.policystat.com/policy/10659368/latest/>

¹⁰ <https://www.angelo.edu/incident-form>

¹¹ <https://www.angelo.edu/title-ix>

¹² <https://www.angelo.edu/covid-19/>