

# GEOL 3310 SPRING 2022

## GEOCHEMISTRY



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Office: VIN 124

**Office Hours (hours subject to change):** MW 10:00 am-12:00 pm; TR 2:00 pm-4:00 pm; or by appointment (in-person or virtual meetings can be scheduled)

## Course Information

### Student Learning Outcomes

The student will learn and practice how to study and work together and how to carefully defend their thinking when answering questions or participating in a discussion.

Learning outcomes will be evaluated by homework, in-class assignments, discussions, quizzes, and exams. At the end of this course, the student will be able to:

1. Describe the origin of the elements we see on Earth and in the Solar System
2. Calculate and predict chemical reaction behavior during a range of geological processes
3. Identify appropriate radioactive dating methods for geological material and calculate ages
4. Analyze and evaluate geochemical research and data related to geochemical principles

### Course Delivery

This is a face-to-face course with online components that students are expected to access in [Blackboard](#).<sup>1</sup>

### Communication

**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, include the course name and section number in your subject line. I 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.

## Technology

You will be required to have a computer with internet access for this course. You may also be required to turn in assignments on Blackboard using a scanner or camera.

## Grading

### Evaluation and Grades

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

Assessment	Percent of Total Grade
In-class projects	20
Journal article summaries and discussions	20
Midterm Exam	20
Geochemistry Project	20
Final Exam (cumulative)	20
Total	100%

- **In-class projects:** There will be at least one graded in-class project for each topic. If you miss class, it is your responsibility to check with your peers or instructors if an in-class activity was done. You have the option to do all in-class activities on your own time. You may work together on these projects but anything you hand in must be your original work.
- **Journal article summaries and discussions:** There will be one peer-reviewed journal article assigned for each topic. For each, you will prepare a journal article summary and participate in an in-class discussion.
- **Geochemistry Project:** TBA
- **Midterm and Final Exams:** Both exams will be open book/notes. The final exam is cumulative.

### 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 = 90.00-100%  
B = 80.00-89.99%  
C = 70.00-79.99%  
D = 60.00-69.99%  
F = 0-59.99%

### Attendance and Assignment Policy

You are expected to keep track of due dates and complete each learning module. Missed assignments, quizzes, and exams cannot be made up. NOTE: You are NOT automatically dropped if you stop completing assignments. The last day to drop this course is April 28, 2022.

# 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](#)<sup>2</sup>
- [Angelo State University Catalog](#)<sup>3</sup>

## 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](#).<sup>4</sup>

## 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](mailto:ADA@angelo.edu). For more information about the application process and requirements, visit the [Student Disability Services website](#).<sup>5</sup> 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](mailto: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](#)<sup>6</sup> for more information.

## **Plagiarism**

Plagiarism is a serious topic covered in ASU's [Academic Integrity policy](#)<sup>7</sup> 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. I encourage you to work together on homework assignments and to study together for exams. However, anything you turn in must be in your own words.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the [ASU Writing Center](#).<sup>8</sup>

## **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](#)<sup>9</sup> 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](#)<sup>10</sup>

Face to Face: Mayer Administration Building, Room 210

Phone: 325-942-2022

Email: [michelle.miller@angelo.edu](mailto: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](#).<sup>11</sup>

### **Information about COVID-19**

Please refer to ASU's COVID-19 (Coronavirus) Updates 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 (subject to change)

Week	Topics	Journal Disc. Dates
1/18 - 1/21	Syllabus Periodic Table and Element Properties	
1/24 - 1/28	Basic Principles of Chemistry	Periodic Table Disc. 1/27
1/31 – 2/4	Fundamentals of Thermodynamics Part 1	
2/7 - 2/11	Fundamentals of Thermodynamics Part 2	Thermodynamics Disc. 2/10
2/14 - 2/18	Thermodynamics of Multi Comp Systems	
2/21 - 2/25	Mineral Stability Diagrams	
2/28 - 3/4	Mineral Stability Diagrams Cosmochemistry	Phase Diagrams Disc. 3/1
3/7 - 3/11	Cosmochemistry <b>3/10: Exam #1</b>	
3/14 - 3/18	<b>Spring Break</b>	
3/21 - 3/25	Analytical Geochemistry	
3/21 - 3/25	Trace Elements	
3/28 - 4/1	Radiogenic Isotopes Part 1	Trace Elems Disc 3/31
4/4 - 4/8	Radiogenic Isotopes Part 2 No class 4/7	
4/11 - 4/15	Stable Isotopes Part 1	Radiogenic Isotope Disc. 4/12
4/18 - 4/22	Stable Isotopes Part 2	
4/25 - 4/29	Presentations	Stable Isotope Disc. 4/26
5/2 - 5/6	Review	
5/9 - 5/13	<b>Final Exam (cumulative)</b>	

<sup>1</sup> <https://blackboard.angelo.edu/>

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

<sup>3</sup> <https://www.angelo.edu/catalogs/>

<sup>4</sup> <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

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

<sup>6</sup> <https://www.angelo.edu/content/files/14197-op-1011-grading-procedures>

<sup>7</sup> <https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php>

<sup>8</sup> [https://www.angelo.edu/dept/writing\\_center/academic\\_honesty.php](https://www.angelo.edu/dept/writing_center/academic_honesty.php)

<sup>9</sup> <https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of>

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

<sup>11</sup> <https://www.angelo.edu/title-ix>