

CHEM 1111

General Chemistry I Laboratory

Winter, 2021



Instructor:

Dr. Gregory Smith

Email: Gregory.Smith@angelo.edu

Phone: 486-6628

Office: CAV 207A – This is an online class, please use email.

Office Hours: Please contact me to set a specific time to meet in Collaborate.

Lab Lecture Class Meeting Times - Asynchronous

This is an online lab course. Attendance of the lab lectures is recommended, but not required, and I will be recording them in Collaborate and posting them shortly thereafter. Here are the times I will be giving the lab lectures:

| Sec | Days | Time | Instructor | Location |
|-----|------|---------------|------------|----------|
| DMZ | TWR | 2:00 pm start | Dr. Smith | ONLINE |

Required Texts and Materials

- Access to McGraw-Hill **Connect Virtual Labs**. This is being provided free of charge. See the Laboratory Blackboard page for instructions.

Course Description

CHEM 1111 General Chemistry II Laboratory (0-3). Laboratory experiments that focus on laboratory technique, data collection, and analysis. The experiments will expand upon the concepts and topics presented in Chemistry 1311.

Prerequisite: Chemistry 1311.

Technology Requirements

This is an online course. Student must have internet access to attend lecture, do homework and work on labs (if applicable). Students are required to have access to:

- A computer with internet access.
- Access to McGraw-Hill **Connect Virtual Labs** for the laboratory course.

Grading

Evaluation and Grades

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

| Assessment | Total Points |
|---------------------|-----------------|
| Labs (x9) | 900 pts |
| Lab Worksheets (x5) | 500 pts |
| Total | 1400 pts |

Grading System

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

The following grading scale will be used for this course:

A = (90-100%)

B = (80-89.9%)

C = (70-79.9%)

D = (60-69.9%)

F = (<60%)

Blackboard

This is an online course. Lab lectures will be livestreamed on Blackboard using Collaborate. Grades will be posted on [Blackboard](#).¹ Information, handouts, homework assignments, and other course documents will either be posted on your instructor's faculty web page, or on Blackboard.

Attendance

It is recommended you attend the lab lectures but not required. You may watch the recording on Collaborate any time after it's posted. The labs will be due 2 days after the lab lecture is given by 11:59 pm.

Last Day to Drop

The last day to drop the course with a grade of "W" is **January 15, 2020**.

This syllabus is subject to change.

CHEM 1111 LAB SCHEDULE — Winter, 2021

| Week | Date Open | Lecture | Lab |
|------|-----------|---|---|
| 1 | Jan. 4 | Introduction Algebra and Sig Figs review | Virtual Labs Tutorial Algebra and Sig Figs worksheet Scientific Measurement and Presentation of Data worksheet |
| 1 | Jan. 5 | Lab Safety | Lab Safety |
| 1 | Jan. 6 | Measurement | Measurement Series |
| 1 | Jan. 7 | Density | Density |
| 2 | Jan. 11 | Reactions in Solution | Reactions in Solution |
| 2 | Jan. 12 | Stoichiometry | Synthesis of Calcium Carbonate |
| 2 | Jan. 13 | Titration | Titration of Vinegar |
| 2 | Jan. 14 | Calorimetry | Calorimetry |
| 3 | Jan. 18 | Quantum Nature of the Atom | Quantum worksheet |
| 3 | Jan. 19 | Molecular Geometry | Molecular Geometry worksheet |
| 3 | Jan. 20 | Properties of Gases | Ideal Gas Law Constant |
| 3 | Jan. 21 | None | Lab Final worksheet |

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:

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

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 Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

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 about Title IX in general you may visit www.angelo.edu/title-ix.

Student Learning Outcomes

Student Learning Outcomes

- **Learning Goal 1:** Students will be able to analyze complex chemical problems and draw logical conclusions.

- Students will be able to use an understanding of atomic structure at the basic and atomic levels to analyze the structure and reactivity of substances and chemical species.
- Students will be able to use an understanding of how energy interacts with matter to predict stable chemical species, and perform thermodynamic calculations describing chemical reactions.
- **Learning Goal 2a:** Students will be able to understand and apply scientific reasoning in the chemical sciences.
 - Students will be able to use an understanding of ions and molecules at the atomic level to predict the behavior of reactions in aqueous solutions.
 - Students will be able to use the basic ideas of quantum mechanics to describe how molecular bonds form and to predict molecular shape and polarity. Molecular structure and polarity will be used to predict the forces between molecules and relate those forces to the states of matter and phase changes.
- **Learning Goal 2b:** Students will be able to employ mathematics in the analysis of chemical problems.
 - The mole concept, chemical formulas and balanced chemical equations will be used to do chemical calculations that relate macroscopic measurements to numbers of atoms, ions or molecules.
 - Students will be able to do calculations involving solution concentration and know how to prepare solutions of given concentrations.
 - Students will be able to quantitatively predict gas properties using gas law calculations.
- **Learning Goal 3:** Students will be able to demonstrate technical and analytical skills in chemistry.
 - Students will be able to use the periodic table to determine basic atomic information and to predict trends in atomic properties.
 - Students will be able to interconvert between chemical names and formulas to the extent that they can work problems given only one of those pieces of information.
 - Students will be able to classify common types of chemical reactions and predict the outcomes of reactions.

Evaluation of Student Learning Outcomes

Student learning outcomes will be evaluated by test questions or by the grading of class activities, as described by your instructor.

Texas Higher Education Coordinating Board Natural Sciences Objectives

The objective of the study of a natural sciences component of a core curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences, and to enable the student to understand the basis for building and testing theories.

Exemplary Educational Objectives

1. To understand and apply method and appropriate technology to the study of natural sciences.
2. To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
3. To identify and recognize the differences among competing scientific theories.
4. To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

¹ <http://blackboard.angelo.edu> (or access Blackboard from RamPort)

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

³ <https://www.angelo.edu/catalogs/>

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

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

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

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

⁸ https://www.angelo.edu/dept/writing_center/academic_honesty.php

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