Chemistry 1311 and 1111
Fall 2021

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Office Hours: Mon-Fri. 8:10AM -8:54AM (except Mon.) and 4:00PM – 5:00PM

Course Description
In this class, you will study the fundamental laws and theories of chemistry, chemical nomenclature, chemical equilibrium, metals and non-metals and their compounds, nuclear chemistry and the quantum theory of structure. This study will include atomic structure, chemical bonding and molecular geometry, stoichiometry, chemical nomenclature, the periodic table, properties of solutions and gases, and thermochemistry. The laboratory will be quantitative in nature.

Prerequisites: Chemistry 1311 and 1111 are to be successfully completed before Chemistry 1312 and 1112. Proficiency in algebra required. Only students eligible to take college-level mathematics courses may take Chemistry 1311 and 1111.

Course Implementation:

CREDIT: Three semester hours for the lecture. One semester hour for lab.

TEXTS : [Provided at FHS campus for academic year 2015-2016]**:** Zumdahl, Steven S., Zumdahl, Susan, *Chemistry, 9th ed. AP* edition*. Belmont, California, Brooks/Cole 2014 **[CR1]**

P. Flowers, K. Theopold, R. Langley, W. Robinson, Chemistry 2e , Houston, Texas, Rice University 2019**[CR1]**

(This text is available as a free download at:
https://openstax.org/details/books/chemistry-2e)

LAB MANUAL [Provided at FHS campus]: Little, John G., *Lab Manual AP* Experimental Chemistry 9th edition*, Brooks/Cole 2014

Attendance Policy: You are expected to attend all class meetings. You are expected to arrive on time and to stay until the end of the lecture.
If you have the flu or symptoms of COVID-19, please stay home. Do not help spread either of these to everyone else. Keep your instructor informed as to your status by email (preferred) or telephone (if necessary). Your faculty will work with you to keep up to date in the class. Students are responsible for all class work covered during absences from class, even in cases for which they are able to satisfy the instructor that the absence was unavoidable.

Angelo State University grades for this class will be assigned on the following basis:

%	Grade*
93+	A
85-92.9	B
77-84.9	C
70-76.9	D
< 70	F

*Dual-credit students who do not achieve at least a grade of C in this dual-credit class may not be allowed to enroll in Chem 1411 through ASU dual-credit courses. Because of the different constraints at the two institutions, grades at Frenship may not match ASU grades.

Note: The final exam for this course will be in 2 parts, administered Dec. 7-Dec.10, and cannot be exempted.

The content of this course will revolve around the following major concepts: [CR2]

1. Scale, Proportion, and Quantity (SPQ)
2. Structure And Properties (SAP)
3. Transformations (TRA)
4. Energy (ENE)

The lab portion of this course will require the student to develop skills in the following categories:

- **Models and Representations**
  (Describe models and representations, including across scales.)
- **Question and Method**
  (Determine scientific questions and methods.)
- **Representing Data and Phenomena**
  (Create representations or models of chemical phenomena.)
- **Model Analysis**
  (Analyze and interpret models and representations on a single scale or across multiple scales.)
- **Mathematical Routines**
  (Solve problems using mathematical relationships.)
- **Argumentation**
  (Develop an explanation or scientific argument.)

Your **grade** for this course will be calculated using the following values for assessements:

Exams	40%
Quizzes	25%
Daily Work	10%
Labs	25%

Tests will be comprehensive and may consist of both multiple choice and free-response questions. If a student does not complete the test in one sitting, the student may be given a completely different test upon returning to complete the test.

Labs [CR5a] will frequently require more time than has been allotted during the scheduled 90 minute class period. You may complete these labs during the morning activity periods (about 2 activity periods per week) prior to the start of classes for the day. You must observe all posted and stated safety rules, as well as rules of common sense and sound chemical judgment. Labs will also require your best attention to detail and best efforts at proper lab technique. You will be expected to **write a thorough lab report** that includes the following sections:

Introduction/Overview - The introduction should describe the reason/intent for the investigation and any background information related to it. A hypothesis would belong in this section.

Experimental Method - This section should consist of a narrative description of the experimental apparatus and procedure. It should be written in the third person and should describe what was done (not what one should do). Nevertheless, the reader should be able by reading this section to perform the identical experiment in order to verify your observations and results.

Data - This section should detail ALL measurements taken during the investigation. These should be recorded in a clear, neat manner that follows the sequence of the procedure. It should show calculations that were conducted using the data. Also, it should show statistical treatments of the data (e.g. % yield, % error, standard deviation) as well as helpful graphical representations. Many of these data items can be carried out in and pasted from a spreadsheet (e.g. MS Excel).

Results/Conclusion – This portion of a lab report should address whether or not (or to what extent) the data support the hypothesis. If a hypothesis was not involved, it should describe the meaning of the investigation's findings.

Your completed lab reports should be saved and submitted as pdf files, in Schoology, to preserve formatting. It would be wise for you to keep a file containing electronic copies of your graded lab reports for later reference. Some universities may want to see hardcopies of these before awarding credit to you.

Quizzes may be daily and will likely consist of a question or questions similar to problems assigned for homework.

Daily problems will be assigned for nearly every class day. Many of these assignments will need to be completed online. For hardcopy problems you will earn a grade upon showing work in an orderly, legible and logical sequence that leads to the solutions. Note that what is most important is not just whether the correct answer is supplied, but that you understand how to solve the problem and can show that you do.

Dates	Course Content	AP Chem Topics	AP Chem Sub-Units
Aug. 16-17	**Unit Zero Lab Safety, Scientific Notation, Significant Figures, and Chemical Nomenclature** 0.1 - Lab Safety 0.2 - Scientific Notation and Significant Figures	None	
Aug. 18-19	**I. Stoichiometry, and Chemical Calculations** *(11 periods)* **A.** Mole concept, atomic number, atomic mass (including isotopes), molar mass **Problems 3.23-3.25, 3.37-3.47 III. Atomic Theory of Matter, Stoichiometry, and Chemical Calculations** **B.** Solution concentration units – molarity, molality, percentage mass/volume and volume/volume – precision glassware and how to prepare solutions of given concentrations. **Problems 4.23-4.39** **(*Lab 1* –Determination of KOH concentration via titration of various HCl solutions–intro to quantitative analysis –Guided Inquiry.) (1 period) LO 1.17, 1.20, 3.9, SP 2.1, 4.2,5.1** **C**. Dalton and the laws of definite and multiple proportions - percent composition, empirical formulas, molecular formulas **Problems 2.17-2.23, 2.35-2.43; Problems 3.27-3.35, 3.49-61,3.73-89, 4.123** **[LO 1.2** Select and apply mathematical routines to mass data to identify or infer the composition of pure substances and/or mixtures. **LO 1.3** Select and apply mathematical relationships to mass data in order to justify a claim regarding the identity and/or estimated purity of a substance. **Activity: Students solve various problems from the book, class worksheets, and online electronic assignments. Provided data concerning mass percent composition of samples and experimentally**	BI 1, BI 2, BI 3 **[CR3a], CR3b], [CR3c]** BI 1, BI 2, BI 3 **[CR3a], CR3b], [CR3c]**	1.1 - Moles and Molar Mass 1.2 - Mass Spectroscopy of Elements 1.3 - Elemental Composition of Pure Substances 4.6 - Introduction to Titration

	determined molar masses, students determine both the empirical and molecular formulas of various compounds.] [CR3a] D. Lavoisier and the law of conservation of mass – balancing equations **[LO 3.3** The student is able to use stoichiometric calculations to predict the results of performing a reaction in the laboratory and/or to analyze deviations from the expected results. **Activity:** Student pairs solve problems in class. Given data concerning the composition of sample of dolomite, students must calculate the expected mass loss upon thermal decomposition at temperatures that could be attainable with a Bunsen burner as the heat source.**] [CR3c]** E. Limiting reagent and percent yield **Problems 3.105, 3.111-3.123**	BI 1 **[CR3a]**	4.5 - Stoichiometry
Aug. 20-25	**II. Gases** *(5 periods)* A. Boyles law, Charles law, Gay-Lussac law and the ideal gas law with its assumptions **Problems 5.23-5.31, 5.37, 5.43-5.75** B. Dalton's law of partial pressures **Problems 5.117** C. Kinetic molecular theory **Problems 5.30,32,33** 1. Avogadro's hypothesis concerning molar volume of a gas **2.** Dependence of molecular kinetic energy on absolute temperature **Problems 5.101-5.113** 3. Non-ideal behaviors of real gases and the conditions under which they are observed. **Problems 5.33-35** **(*Lab 7* – Testing Charles's law.) (1 period) LO 2.5, 2.12 SP 2.1, 2.2, 2.3 [CR5] [CR6]**	BI 3 **[CR3c]**	3.3 - Solids, Liquids, and Gases 3.4 - Ideal Gas Law 3.5 - Kinetic Molecular Theory
Aug. 26-31	**Unit Zero Lab Safety, Scientific Notation, Significant Figures, and Chemical Nomenclature** 0.3 - Naming ionic compounds – polyatomic ions, when to use Roman numerals, writing formulas for neutral compounds 0.4 - Naming acids by converting the names of the appropriate anions		

	0.5 - Naming covalent compounds – prefixes 0.6 - Naming of simple organic compounds –alkanes, alkenes, alkynes, alcohols, aldehydes, ketones, organic acids, ethers, esters		
Sept.1-2 **Sept.3-7** **Sept.8-9** **Sept.10-16**	**Exam 1 – units and dimensional analysis, significant figures, naming (ionic, covalent, organic and acids), percent composition, empirical and molecular formulas, limiting reagent, percent yield, molarity, molality, atomic number and mass implications, identification and appropriate choice of precision glassware, conversions between grams, moles, and/or particle amounts,** **III. Types of Chemical Reactions** (4 *periods*) A. Synthesis and decomposition reactions **Problems 3.97, 3.103, 3.107, 4.45-4.63** **(*Lab 2*– Identifying six ionic solutions by their reactions with each other – and writing equations in molecular, ionic, and net ionic forms.) (1 period) LO 2.23,2.24, 3.2 SP4.1, 5.1, 6.1 [CR5] [CR6]** B. Redox reactions **Problems 4.79-4.87** 1. Oxidation number and the half reaction method for solving redox reactions 2. Electron transfer **(*Lab 3*- Analysis by Oxidation-Reduction Titration –Expt. 8 in lab manual - Guided Inquiry.) (1 period) LO 3.9, SP 4.2,5.1 [CR5] [CR6]**	BI 1 **[CR3a]**	1.4 - Composition of Mixtures 3.7 - Solutions and Mixtures 3.8 - Representations of Solutions 4.6 - Introduction to Titration 4.1 - Introduction for Reactions 3.10 - Solubility 4.2 - Net Ionic Equations 4.3 - Representations of Reactions 4.9 - Oxidation-Reduction (Redox) Reactions

Sept.17-21	**II. The Structure of an Atom** *(5 periods)* **A.** The photoelectric effect and photoelectron spectroscopy (PES). Methods and evidence for the various models of atomic structure. J.J. Thomson, Rutherford, the Rydberg equation (Lyman, Balmer, Paschen, Brackett, and Pfund series for hydrogen), the Bohr model, de Broglie. **Problems 2.45-2.47, 7.19-7.29, 7.39-7.63, 7.99** **(*Lab 4*- Determining atomic emission by spectroscopy) (1 period) LO 1.16, 3.11 SP 1.5, 2.2, 5.1 5.3, 6.1, 7.1, 7.3 [CR5] [CR6]** 1. Ionization energy, electron affinity, and atomic and ionic radii **Problems 7.31, 7.105, 7.115-7.119, 7.147-7.151, 7.165** 2. Rationalization of periodic trends via Coulomb's law 3. Orbital shapes and properties as predicted by Schrodinger's equations and confirmed by evidence. **C.** Trend of nuclear stability; nuclear equations, half-lives, radioactivity and chemical applications of radioisotopic analysis **Problems 19.11-19,23**	BI 1, BI 2, BI 3 **[CR3a], CR3b], [CR3c]** BI 2 **[CR3b]**	1.5 - Atomic Structure and Electron Configuration 1.6 - Photoelectron Spectroscopy 1.7 - Periodic Trends 1.8 - Valence Electrons and Ionic Compounds 3.12 - Photoelectric Effect
Sept.22-23	**Exam 2 – Redox reactions, mass spectrometry, photoelectron spectroscopy, energy associated with atomic absorption and emission, Coulomb's law justifications for periodic trends for ionization energy, electron affinity, atomic and ionic radii, electron affinity, Bohr diagrams, electron configuration, orbital filling diagrams, gas laws, gas stoichiometry, trend of nuclear stability, nuclear equations, and material from previous tests**		
  Sept. 24-28 **Sept. 29-30** **Oct. 1-8**	**IV. Thermodynamics** (*6 periods*) A. Specific heat, heat capacity, and calorimetry **Problems 6.51-61,67.** ***(Lab 5*-Analysis by Calorimetry –Expt. 12 in lab manual - Guided Inquiry.) (1 period)LO 5.7, SP 4.2,5.1 [CR5] [CR6]** B. State functions **Problems 6.13** C. 1st law of thermodynamics – change in enthalpy, heats of: formation, reaction, vaporization and fusion; Hess's law **Problems 6.13-21, 29-39, 41-49**	BI 5 **[CR3e]** BI 5 **[CR3e]**	6.1 - Endothermic and Exothermic Processes 6.2 - Energy Diagrams 6.3 - Heat Transfer and Thermal Equilibrium 6.4 - Heat Capacity and Calorimetry 6.5 - Energy of Phase Changes 6.6 - Introduction to Enthalpy of Reaction 6.7 - Bond Enthalpies

Oct. 12-13 **Oct. 14-15**	**(*Lab 6*- Hess' law determination of the molar enthalpy for the rxn. of NaOH with HCl.) (1 period) LO 5.4,5.5, 5.7, 5.8 SP 2.1, 2.2, 4.1, 4.2, 4.3 [CR5] [CR6]** **Exam 3 –specific heat capacity and calorimetry, enthalpy of: formation, reaction, vaporization and fusion, Hess' law, and material from previous tests**		6.8 - Enthalpy of Formation 6.9 - Hess's Law
Oct.18-19 **Oct.20-25** **Oct.26-29** **Nov.1-2**	**V. Chemical Bonds and Molecular Structure***(6 periods)* A. Electronegativity differences **Problems 8.1** B. Relating ionic, covalent and metallic bond characteristics to the periodic table **Problems 8.15-39** C. Lewis structures and valence bond theory: formal charge, VSEPR, hybridization of orbitals (including expanded octets), resonance, *sigma* and *pi* bonds **Problems 8.81-8.91,8.99-8.121, 9.17-29,9.39** D. Molecular orbital theory E. Intermolecular forces of attraction – hydrogen bonds, ion-dipole, dipole-dipole, London dispersion forces – and their effects on physical properties F. Molecular structures within solids G. Factors affecting solubility, Raoult's law and vapor pressure, colligative properties	BI 2 **[CR3b]**	2.1 - Types of Chemical Bonds 2.2 - Intramolecular Force and Potential Energy 2.5 - Lewis Diagrams 2.6 - Resonance and Formal Charge 2.7 - VSEPR and Bond Hybridization 3.1 - Intermolecular Forces 3.3 - Solids, Liquids, and Gases
Nov. 3-4	**Exam 3 –Electronegativity differences and bond type (ionic, polar covalent, covalent), Lewis structures and valence bond theory: formal charge, VSEPR, hybridization of orbitals (including expanded octets), resonance, *sigma* and *pi* bonds, molecular orbital theory, IMFs, and material from previous tests**		
Nov. 5-12	**VI. Thermodynamics- extended** A. 2nd law of thermodynamics - entropy, free energies of formation and reaction; dependence of Gibbs free energy on enthalpy and entropy changes **Problems 17.11-61** **[LO 5.13** The student is able to predict whether or not a physical or chemical process is thermodynamically favored by determination of (either quantitatively or qualitatively) the signs of both $\Delta H°$ and $\Delta S°$, and calculation or estimation of $\Delta G°$ when needed.		9.1 - Introduction to Entropy 9.2 - Absolute Entropy and Entropy Change 9.3 - Gibbs Free Energy and Thermodynamic Favorability

	Activity: Students solve various problems from the book, class worksheets, and online electronic assignments. Given data concerning heat gained or lost during a particular reaction and given the balanced equation for the reaction, students calculate the enthalpy change per mole of given reactants. Coupling the enthalpy changes thus determined with entropy change data (from tables) students calculate the free-energy change for each reaction.] [CR3e]		
Nov. 15-19	**VII. Intro to acid-base chemistry Problems 4.65** 1. Arrhenius, Bronsted-Lowry and Lewis definitions and amphoterism 2. Acid and base strength 3. pH 4. pH of aqueous solutions of strong acids and strong bases 5. Intro to pH of aqueous solutions of weak acids and weak bases		
Nov. 29-Dec.6	**VIII. Intro to equilibria** A. Le Chatelier's principle and equilibrium constant expressions B. Connection between K and **ΔG**		
	Topics for final exams - **units and dimensional analysis, significant figures, naming (ionic, covalent, organic and acids), percent composition, empirical and molecular formulas, limiting reagent, percent yield, molarity, molality, atomic number and mass implications, identification and appropriate choice of precision glassware, conversions between grams, moles, and/or particle amounts, photoelectron spectroscopy, energy associated with atomic absorption and emission, Coulomb's law justifications for periodic trends for ionization energy, electron affinity, atomic and ionic radii, electron affinity, Bohr diagrams, electron configuration, orbital filling diagrams, trend of nuclear stability, nuclear equations, solubility rules and predicting the products of ionic reactions, redox reactions, ionic, covalent, and polar covalent bonds, formal charge, VSEPR predictions for numbers and types of bonds and for molecular geometry, bonding vs. anti-bonding orbitals, bond order, paramagnetism and diamagnetism, intermolecular forces of attraction and how they relate to physical states specific heat capacity and calorimetry, enthalpy, Hess' law, predicting "spontaneity," ideal gas law assumptions, gas law calculations, kinetic molecular theory, non-ideal behavior of real gases, acid and base definitions, acid and base strength, pH, Le Chatelier's principle, K_{eq} and how it relates to ΔG**	BI 2 **[CR3b]**	

Dec. 7-8 **Dec. 9-10**	**Exam 5 – Free response - Comprehensive Final Exam** **Exam 6 – Multiple choice – Comprehensive Final Exam**		
Dec. 20,21	*FHS Semester final exam* – comprehensive (1 period)		

Student Learning Outcomes 1311.1312.1111.1112

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 in-classroom 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.
5. To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Student Disability Services

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 at www.angelo.edu/ADA. The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Ms. Dallas Swafford
Director of Student Disability Services

- 325-942-2047
- dallas.swafford@angelo.edu
- Houston Harte University Center 112

Title IX

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 Boone, J.D. You may submit reports in the following manner:

- Online: www.angelo.edu/incident-form
- Face to Face: Mayer Administration Building, Room 210
- Phone: 325-942-2022
- Email: michelle.boone@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: www.angelo.edu/title-ix.

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.

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.

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 Statement of Academic Integrity

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 via Turnitin. Resources to help you understand this policy better are available at the ASU Writing Center.

Copyright Policy

Students officially enrolled in this course should make only one printed copy of the given articles and/or chapters. You are expressly prohibited from distributing or reproducing any portion of course readings in printed or electronic form without written permission from the copyright holders or publishers.

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

- Angelo State University Student Handbook
- Angelo State University Catalog