CHEM 1111
Sections 10Z and 14Z
General Chemistry I Laboratory
Fall, 2020

Instructors (CHEM 1311 and 1111):

Dr. Gregory Smith
- Email: Gregory.Smith@angelo.edu
- Phone: 486-6628
- Office: CAV 207A
- Office Hours: MWF 11-12, TR 10-11

Dr. Kyle Beran
- Email: Kyle.Beran@angelo.edu
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- Office: CAV 102B
- Office Hours: MWF 2-3, TR 11-12, or by appointment

Mr. Kevin Boudreaux
- Email: Kevin.Boudreaux@angelo.edu
- Phone: 486-6623
- Office: CAV 207B
- Office Hours: MWF 11-12, TR 11-12, or by appointment; Review sessions W 5 pm

Dr. David Carter
- Email: David.Carter@angelo.edu
- Phone: 486-6626
- Office: CAV 218
- Office Hours: T 2:30-4:00; W 8:00-9:30, R 9:30-11:00, or by appointment

Dr. Edith Osborne
- Email: Edith.Osborne@angelo.edu
- Phone: 486-6629
- Office: CAV 204A
- Office Hours: MWRF 11-12, M 1-2

Dr. Ralph Zehnder
- Email: Ralph.Zehnder@angelo.edu
- Phone: 486-6662
- Office: CAV 204B
- Office Hours: W 2:30-5, F 11-1:30, or by appointment.
Lab Meeting Times
This is a lab course with an online component. Attendance of the lab is required. Some pre-lab lectures will be recorded and uploaded to Blackboard. You must watch the video before coming to lab.

<table>
<thead>
<tr>
<th>Sec</th>
<th>Days</th>
<th>Time</th>
<th>Instructor</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>08Z</td>
<td>M</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Zehnder</td>
<td>CAV 216</td>
</tr>
<tr>
<td>09Z</td>
<td>M</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Osborne</td>
<td>CAV 212</td>
</tr>
<tr>
<td>10Z</td>
<td>M</td>
<td>2:00 pm – 4:50 pm</td>
<td>Dr. Smith</td>
<td>CAV 212</td>
</tr>
<tr>
<td>11Z</td>
<td>T</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Carter</td>
<td>CAV 212</td>
</tr>
<tr>
<td>12Z</td>
<td>T</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Osborne</td>
<td>CAV 216</td>
</tr>
<tr>
<td>13Z</td>
<td>W</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Zehnder</td>
<td>CAV 216</td>
</tr>
<tr>
<td>14Z</td>
<td>W</td>
<td>2:00 pm – 4:50 pm</td>
<td>Dr. Smith</td>
<td>CAV 212</td>
</tr>
<tr>
<td>15Z</td>
<td>W</td>
<td>2:00 pm – 4:50 pm</td>
<td>Dr. Carter</td>
<td>CAV 216</td>
</tr>
<tr>
<td>16Z</td>
<td>R</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Zehnder</td>
<td>CAV 212</td>
</tr>
<tr>
<td>17Z</td>
<td>R</td>
<td>2:00 pm – 4:50 pm</td>
<td>Mr. Boudreaux</td>
<td>CAV 212</td>
</tr>
<tr>
<td>18Z</td>
<td>R</td>
<td>11:00 am – 1:50 pm</td>
<td>Dr. Osborne</td>
<td>CAV 216</td>
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</tbody>
</table>

Required Texts and Materials
- Access to LearnSmart Labs. This is being provided free of charge. See the Laboratory Blackboard page for instructions. Do not pay for access.
- Lab handouts will be posted on Blackboard.
- Respondus Lockdown & Respondus Monitor Access through Blackboard. Make sure that your computer/laptop is compatible with Respondus software. Respondus Monitor requires a webcam. Lockdown and Monitor will be used for the administration of exams.
- Approved Lab Goggles [Required] (available from the ASU Bookstore or from the lab stockroom)
- Calculator [Required]: Scientific calculator capable of performing calculations with scientific notation and logarithms. Bring your calculator to class and to lab every day. Only non-programmable calculators may be used on the exams.

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. Our Blackboard site will have handouts, grades, and videos.
- **Respondus Lockdown & Respondus Monitor** Access through Blackboard. Make sure that your computer/laptop is compatible with Respondus software. Respondus Monitor requires a webcam. Lockdown and Monitor will be used for the administration of exams.
- Access to **LearnSmart Labs** for the laboratory course.
- Access to **Slack**. Slack is an easy way to get in touch with me or other students to discuss homework and form study groups. See the Blackboard site for how to join out workspace.

Grading

### Evaluation and Grades
Course grades will be determined as indicated in the table below.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labs and Worksheets (x 13)</td>
<td>1300 pts</td>
</tr>
<tr>
<td>Lab Final</td>
<td>100 pts</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1400 pts</strong></td>
</tr>
</tbody>
</table>

### Grading System
CHEM 1311 is a corequisite for this course and the grades are linked. If you are also in CHEM 1311, the lab portion will count as 20% of your overall grade, and you will receive the same grade in both the lecture and the lab. A direct percentage will carry over from your lab grades.

For any student enrolled in CHEM 1111 but not CHEM 1311, the following grading scale will be used for this course:

- A = 1260-1300 points (90-100%)
- B = 1120-1259 points (80-89.9%)
- C = 980-1119 points (70-79.9%)
- D = 840-979 points (60-69.9%)
- F = 0-839 points (<60%)

### Exams
There will be a lab final during the last week of lab.
<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Room</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Final</td>
<td>Week of Nov. 16</td>
<td>ONLINE</td>
<td>Regular Lab Time</td>
</tr>
</tbody>
</table>

Make-up exams will be at the discretion of your individual faculty. Usually, allowances will only be made in the case of an excused university absence. Communication with your instructor is critical.

**Blackboard**
This is a lab course with an online component. Some lab lectures will be recorded and uploaded to Blackboard. Grades will be posted on Blackboard. Information, handouts, homework assignments, and other course documents will be posted on Blackboard.

**Attendance**
Attendance is required and it will be very difficult to make up labs.

**Last Day to Drop**
The last day to drop the course with a grade of “W” is **Tuesday, November 10, 2020**.

**Laboratory Attire**
Beginning on the first day of lab, everyone MUST have approved goggles, long-sleeved shirts which cover the midriff, long pants, and shoes with closed toes and heels (no sandals, slides, etc.). (Basically, you should have as little exposed skin as possible.) Anyone not wearing the appropriate attire will not be allowed into lab.

**Lab Procedures and Lab Reports**
The procedures for these labs will be posted on Blackboard in the section labeled “Lab Resources.” The procedures will provide a description of the background for each experiment, pre-laboratory questions that will be turned in at the beginning of the lab period, a procedure for the experiment, and a lab report form which must be handed in when the lab is completed. It is essential that you read the materials posted in Blackboard for that week’s lab before coming to lab. Each lab will be worth 100 points.

**Cleaning Up After Lab**
Make sure that your lab area is clean and that all glassware and hardware has been cleaned and returned to the appropriate drawers before leaving the lab.

**Make-Up Lab Policy**
The lowest lab score will be dropped from the total. If you miss a lab for a valid reason, that is the score that will be dropped.

**Lab Safety Training**
All students enrolled in lab courses are required to take a Mandatory Laboratory Safety Training and Quiz on Blackboard. Instructions for completing the quiz are given below:
1. Login to Blackboard, and choose the course: entitled “Lab Safety Training.”
2. Under the left-hand menu, choose: “Get Started Here”.
3. There are three sections:
   a. Welcome to Lab Safety Training — There are your instructions.
   b. Lab safety training — Click on “Lab Safety — Click here to begin”. This will download a PowerPoint slide show which will cover the safety training.
   c. The lab safety quiz. You must score 90% or higher. You can take it again in 24 hours. The Lab Safety Training must be completed by the evening of Sunday, September 8.

**Lab Final Exam**
There will be a 100-point lab final exam given during the last week of classes. This will be taken online using Respondus lockdown browser and monitoring with webcam. This grade will not be dropped from the lab total.

This syllabus is subject to change.
# CHEM 1111 LAB SCHEDULE — Fall, 2020

<table>
<thead>
<tr>
<th>Week</th>
<th>Week of</th>
<th>Lab</th>
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<tbody>
<tr>
<td>1</td>
<td>8/17</td>
<td>ONLINE Lab Safety Lecture</td>
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<tr>
<td></td>
<td></td>
<td>Significant figure lecture and</td>
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<tr>
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<td>worksheet</td>
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<tr>
<td></td>
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<td>Mandatory Lab Safety Training and</td>
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<tr>
<td></td>
<td></td>
<td>Quiz</td>
</tr>
<tr>
<td>2</td>
<td>8/24</td>
<td>ONLINE LearnSmart Lab – Density</td>
</tr>
<tr>
<td>3</td>
<td>8/31</td>
<td>FACE TO FACE Measuring mass and</td>
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<tr>
<td></td>
<td></td>
<td>volume</td>
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<tr>
<td>4</td>
<td>9/7</td>
<td>ONLINE Take Home Assignment: “</td>
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<tr>
<td></td>
<td></td>
<td>Scientific Measurement and</td>
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<tr>
<td></td>
<td></td>
<td>Presentation of Data”</td>
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<tr>
<td>5</td>
<td>9/14</td>
<td>ONLINE LearnSmart Lab – Calorimetry</td>
</tr>
<tr>
<td>6</td>
<td>9/21</td>
<td>FACE TO FACE Percentage Water in</td>
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<tr>
<td></td>
<td></td>
<td>a Hydrate</td>
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<tr>
<td>7</td>
<td>9/28</td>
<td>ONLINE LearnSmart Lab – Stoichiometry</td>
</tr>
<tr>
<td>8</td>
<td>10/5</td>
<td>FACE TO FACE Titration of Vinegar</td>
</tr>
<tr>
<td>9</td>
<td>10/12</td>
<td>ONLINE LearnSmart Lab – Reactions</td>
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<td></td>
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<td>in Solution</td>
</tr>
<tr>
<td>10</td>
<td>10/19</td>
<td>FACE TO FACE Hess’s Law</td>
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<tr>
<td>11</td>
<td>10/26</td>
<td>ONLINE LearnSmart Lab – Gas Law</td>
</tr>
<tr>
<td>12</td>
<td>11/2</td>
<td>FACE TO FACE Emission Spectra of</td>
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<tr>
<td></td>
<td></td>
<td>Atoms</td>
</tr>
<tr>
<td>13</td>
<td>11/9</td>
<td>ONLINE Molecular Structures and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shapes</td>
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<tr>
<td>14</td>
<td>11/16</td>
<td>Lab Final Exam</td>
</tr>
<tr>
<td>15</td>
<td>11/23</td>
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## 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 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 Procedures6 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 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.

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### 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