COURSE INFORMATION
Course Number: CHEM 1412
Section: 73172, 73171
Location: EN 106
Time: MWF 9:00 – 9:50 am, MWF 10:00 – 10:50 am

INSTRUCTOR INFORMATION
Instructor: Dr. Amanda Willoughby
Office location: CS 105
Office hours: M & W 1:00 – 3:00 pm, F 1:00 – 2:00 pm
Email: Amanda.Willoughby@tamucc.edu

COURSE DESCRIPTION
General Chemistry is the foundation course in chemistry for all science majors. This course will provide a basic understanding of chemical concepts such as nomenclature, periodic properties, structure, bonding, and stoichiometric relationships.

PREREQUISITES
CHEM 1411 (CHEM 1) and MATH 1314. Basic algebra, logic, and problem solving skills are necessary for success.

TEXTBOOKS AND SUPPLIES

Online Homework: You must have the code that accompanies the text to enroll in the online homework Connect and LearnSmart, (provided on Blackboard and in class). You can also buy the e-version of the text and the code online. All students are required to start Connect the first week of class. Failure to obtain access may result in a negative impact on your grade. Regular assignments will be posted ~3 weeks prior to due date and students are required to complete the assignments by the due date at 11:59 pm. The lowest homework grade will be dropped.

Supplies: Scientific calculator. My recommendation: TI-30 (2-line). If you already have a scientific calculator, it is not necessary to purchase a new one.

Smartphone app: Socrative (Student), a free app for Android and iOS, will be used to begin each class with a set of questions to initiate class engagement. Attendance will be taken using this app, but for the purpose of monitoring student engagement and participation and will not directly influence your grade. The activities can also be accessed from a laptop at the following site: https://b.socrative.com/login/student/

STUDENT LEARNING OUTCOMES AND ASSESSMENT
Assessment is a process used by instructors to help improve learning. Assessment is essential for effective learning because it provides feedback to both students and instructors. A critical step in this process is making clear the course’s student learning outcomes that describe what students are expected to learn to be successful in the course. The student learning outcomes for this course are listed below. By collecting data and sharing it with students on how well they are
accomplishing these learning outcomes students can more efficiently and effectively focus their learning efforts. This information can also help instructors identify challenging areas for students and adjust their teaching approach to facilitate learning.

By the end of this course, students should be proficient in the following topics:

- Intermolecular forces
- REDOX reactions
- States and properties of matter
- Acids, bases, and water solutions
- Chemical kinetics and equilibrium
- Thermodynamics and entropy
- Electrochemistry

**Course Content & Schedule**

This schedule is **tentative**. It is the student’s responsibility to keep up with changes. Effective methods for keeping up with schedule changes include, but are not limited to 1) coming to class, 2) checking Blackboard regularly, and 3) checking your TAMUCC email regularly. You should read the specified textbook sections before attending class. Lectures are a supplement (not replacement) for the textbook.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Dates</th>
<th>Topics</th>
<th>Homework Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>1/20 – 2/22</td>
<td>Intermolecular forces: Solids, liquids, and phase changes</td>
<td>See Connect for due dates</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>The properties of mixtures: solutions and colloids</td>
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<tr>
<td>16</td>
<td></td>
<td>Kinetics: Rates and mechanisms of chemical reactions</td>
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</tbody>
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**Wednesday 2/24 Test 1 (Ch 12-13, 16)**

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Dates</th>
<th>Topics</th>
<th>Homework Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>2/26 – 3/28</td>
<td>Equilibrium: The extent of chemical reactions</td>
<td></td>
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<tr>
<td>18</td>
<td></td>
<td>Acid-base equilibria</td>
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<tr>
<td>19</td>
<td></td>
<td>Ionic equilibria in aqueous systems</td>
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</tbody>
</table>

**Wednesday 3/30 Test 2 (Ch 17-19)**

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<thead>
<tr>
<th>Chapter</th>
<th>Dates</th>
<th>Topics</th>
<th>Homework Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>4/1 – 4/25</td>
<td>Thermodynamics: Entropy, free energy, and direction of chemical reactions</td>
<td></td>
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<tr>
<td>21</td>
<td></td>
<td>Electrochemistry: Chemical change and electrical work</td>
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</tbody>
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**Wednesday 4/27 Test 3 (Ch 20-21)**

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<thead>
<tr>
<th>Chapter</th>
<th>Dates</th>
<th>Topics</th>
<th>Homework Due Date</th>
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<tbody>
<tr>
<td></td>
<td>4/29 – 5/1</td>
<td>Review/flex days</td>
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</tbody>
</table>

**Final exam (Cumulative, see exam schedule for date and time)**

**Instructional Methods**

We will meet face-to-face and I will present lectures in the style of PowerPoint slides. Each class will begin with a Socrative activity. PowerPoint slides will be made available to students on Blackboard prior to lectures, and it is the responsibility of the student to download and/or print these materials prior to class. The pace of the class is set with the expectation that the student has the lecture slides in his/her possession. Course grades will be determined based on a student’s completion and scores received on three in-class tests, a final exam, online homework, and the associated laboratory course.
**Grade Distribution**

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>%</th>
<th>Final Letter Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test 1</td>
<td>15</td>
<td>A &gt; 90%</td>
</tr>
<tr>
<td>Test 2</td>
<td>15</td>
<td>B 80 - 89%</td>
</tr>
<tr>
<td>Test 3</td>
<td>15</td>
<td>C 70 - 79%</td>
</tr>
<tr>
<td>Final exam</td>
<td>15</td>
<td>D 60 - 69%</td>
</tr>
<tr>
<td>Connect Homework</td>
<td>15</td>
<td>F &lt; 60%</td>
</tr>
<tr>
<td>Laboratory</td>
<td>25</td>
<td></td>
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<tr>
<td><strong>Total</strong></td>
<td>100</td>
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**Laboratory**

The lab portion of the course makes up 25% of the course grade. Laboratory is managed separately from the lecture, and on occasion, you may be required to learn concepts for the lab that have not yet been reviewed in lecture. It is your responsibility to familiarize yourself with the pertinent information. I can help with the understanding of concepts as they relate to the lab, but specific questions regarding lab reports, lab grades, and lab policy should be directed toward your lab instructor.

**Course Policies**

We are going to be spending a lot of time together, so here are some ground rules to make sure we all have the best possible experience:

- **Attendance**: Come to every class and be there on time. Attendance will be taken, but only in an effort to monitor student engagement. It will not directly affect the lecture grade. It is the responsibility of the student to obtain missed class materials from Blackboard.

- **Test make-ups**: NO MAKE-UPS. If you miss ONE test, your final exam grade will be counted twice to replace the missed test. If you miss TWO or THREE tests, you will receive a zero for those. Certain circumstances may warrant a make-up exam and requires notification, documentation, and arrangements be made prior to the missed exam. These situations will be handled on a case-by-case basis and are at the instructor’s discretion.

- **Test-late policy**: Any student arriving more than 5 minutes late to a test or exam will have 5 points deducted from his/her test or exam grade. Being late on a test day is highly disruptive to all students. No additional time will be given to a student arriving late.

- **Late work**: Online homework and any other assignments will not be accepted past the set due date.

- **Extra credit**: Completing LearnSmart activities in Connect can earn up to 5 bonus points on each test.

- **Cell phone use**: Set to silent, please.

- **Laptop use**: Laptops/tablets are permitted and encouraged to facilitate learning of course-related material.

- **Electronic devices during tests/exams**: The use any electronic device besides an approved calculator is prohibited on tests and exams. Any attempt to use such a device will be considered an attempt at cheating, and will result in a grade of 0 and the student will be subject to any actions consistent with honor code violations. Calculators for which the only function it has is to be a calculator may be used on the tests/exams. Programmable calculators are permitted, but storage/retrieval of information during an exam will be considered an attempt to cheat and will be handled accordingly.

- **Food in class**: Generally, no food during class. It’s just disruptive to the learning process. Water and caffeinated beverages are encouraged, just keep them under control.
Participation: Come to class, participate in the Socrative activities, ask questions (politely), and answer questions (politely). Staying engaged will help you to master the material. Participation will be monitored using Socrative, but will not directly influence your grade.

Student responsibility: If you have been reading this syllabus, then you know you have a lot of responsibilities. This section is to inform you of your responsibility to check your TAMUCC email and Blackboard regularly (i.e., every day) because important announcements and changes will be communicated that way.

Tutoring and test-taking strategies: You want you to be successful, and I want you to be successful. It may take you some time to figure out how to be successful, especially in a notoriously challenging course like chemistry. You need to develop good note-taking skills, organization skills, study habits, and test-taking strategies. If you find yourself performing below what you expect, or if you would like to avoid doing so, please come talk to me about your strategies. The earlier you do this, the more likely you are to be successful. Your instructor, SI leaders, and TAs are available to help you, but YOU need to take the initiative. Here are additional resources for those who find chemists unapproachable:

  Center for Academic Achievement (CASA): They provide free tutoring, test-taking strategies, and extra help.

  University Counseling Center (UCC): (361-825-2703) They can help with test anxiety, stress problems, or any other issues for free.

SI Leaders: Supplemental instruction leaders are undergraduates who were successful in this course. They attend all of the lectures, develop and implement SI sessions (activities pertaining to information covered in lecture), and hold office hours. They serve as an additional resource for help in completing and understanding course materials. A complete schedule of office hours and SI sessions will be posted on Blackboard shortly after the beginning of classes. Students who attend SI sessions earn 0.5 – 1.0 GPA points higher than students who do not attend SI sessions.
In choosing to take this course, you are agreeing to abide by the course rules, regulations, and standards. This includes agreeing to be respectful to your instructors and fellow students. Conduct that is disruptive or disrespectful will not be tolerated and is grounds for dismissal from the class. Should you have concerns or questions, you are to discuss them with the instructor as soon as possible. However, you are bound by these rules, regulations, and standards from the first day of the class throughout the duration of the course.

**COLLEGE AND UNIVERSITY POLICIES**

- **Academic Integrity (University)**
  
  It is expected that university students will demonstrate a high level of maturity, self-direction, and ability to manage their own affairs. Students are viewed as individuals who possess the qualities of worth, dignity, and the capacity for self-direction in personal behavior.

  See Full University Policy at [http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity](http://catalog.tamucc.edu/content.php?catoid=10&navoid=313#Academic_Integrity)

- **Classroom/Professional Behavior**

  Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom. This prohibition applies to all instructional forums, including classrooms, electronic classrooms, labs, discussion groups, field trips, etc.

- **Statement of Civility**

  Texas A&M University-Corpus Christi has a diverse student population that represents the population of the state. Our goal is to provide you with a high quality educational experience that is free from repression. You are responsible for following the rules of the University, city, state, and federal government. We expect that you will behave in a manner that is dignified, respectful and courteous to all people, regardless of sex, ethnic/racial origin, religious background, sexual orientation or disability. Behaviors that infringe on the rights of another individual will not be tolerated.

- **Deadline for Dropping a Course with a Grade of W (University)**

  The grade of W will be assigned to any student officially dropping a course. Please consult with the instructor before you decide to drop to be sure it is the best thing to do. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. Should dropping the course be the best course of action, visit the Office of the University Registrar for the Course Drop Form that must be submitted. No student is eligible to receive a W without completing the official drop process by the deadline. Please consult the Academic Calendar ([http://www.tamucc.edu/academics/calendar/](http://www.tamucc.edu/academics/calendar/)) for the last day to drop a course.

- **Grade Appeals (College of Science and Engineering)**

  As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he or she has not been held to appropriate academic standards as outlined in the class syllabus, equitable
evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at http://www.tamucc.edu/provost/university_rules/index.html, and the College of Science and Engineering Grade Appeals webpage at http://sci.tamucc.edu/students/GradeAppeal.html. For assistance and/or guidance in the grade appeal process, students may contact the chair or director of the appropriate department or school, the Office of the College of Science and Engineering Dean, or the Office of the Provost.

- **Disability Services**

  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please call (361) 825-5816 or visit Disability Services in Corpus Christi Hall 116.

  If you are a returning veteran and are experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services Office for assistance at (361) 825-5816. http://disabilityservices.tamucc.edu/

- **Statement of Academic Continuity**

  In the event of an unforeseen adverse event, such as a major hurricane, and classes could not be held on the campus of Texas A&M University-Corpus Christi; this course will continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.