**College of Science and Engineering**
**Dept. of Physical and Environmental Sciences**
**Spring 2017**
**General Chemistry II**

A. **COURSE INFORMATION**

<table>
<thead>
<tr>
<th>COURSE</th>
<th>SECTION</th>
<th>DAY/TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1412</td>
<td>0.02</td>
<td>MWF 9:00 – 9:50 am</td>
<td>EN 101</td>
</tr>
<tr>
<td></td>
<td>0.01</td>
<td>MWF 10:00 – 10:50 am</td>
<td>EN 101</td>
</tr>
</tbody>
</table>

B. **INSTRUCTOR INFORMATION**

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

C. **COURSE DESCRIPTION**

The continuation of CHEM 1411 - General Chemistry I, the foundation course in chemistry with emphasis on quantitative aspects. Laboratory involves development of basic skills. This course counts toward the natural science component of the University Core Curriculum.

D. **PREREQUISITES AND CO-REQUISITES**

**Prerequisites:** CHEM1411 (General Chemistry I) and MATH1314 (College Algebra) or equivalents.

**Co-requisites:** All students must be registered for an associated CHEM1412 laboratory course and SMTE0093

E. **REQUIRED TEXTBOOKS AND SUPPLIES**


**Online Homework Access Codes:** You must have the codes (2) that accompany the text to enroll in the online homework (ALEKS and Connect). You can also buy the e-version of the text and the code online. **All students are required to start ALEKS and Connect the first week of class.** Failure to obtain access may result in a negative impact on your grade. **Specific due dates will be listed with each assignment online.** Access codes bought for this course or CHEM1411 previously may be reused provided it has not expired. Students are responsible for determining expiration and purchasing new codes, if necessary.

**Link for online homework:**

ALEKS: [https://www.aleks.com/](https://www.aleks.com/) Course code: 3PY3N-CWC4M


**Necessary supplies:** A scientific calculator. If you already have a scientific calculator, it is not necessary to purchase a new one. If you do not have one, then I recommend a two-line TI-30.

**Online technical support**

TAMUCC accounts (Email, Blackboard, etc.)  ithelp@tamucc.edu
ALEKS  [http://support.aleks.com/](http://support.aleks.com/)
Connect/LearnSmart  [http://mpss.mhhe.com/contact.php](http://mpss.mhhe.com/contact.php)  1-800-331-5094

**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. The activities can also be accessed from a laptop at the following site:

[https://b.socrative.com/login/student/](https://b.socrative.com/login/student/)

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**Exam Dates**

- **Exam 1:** Wednesday, February 22
- **Exam 2:** Friday, April 7
- **Exam 3:** Friday, April 28

Final Exam: See University Final Exam Schedule ([http://registrar.tamucc.edu/Register%20for%20Class/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Class/Final_Exams.html))

**Required items:** pencil & calculator

**Supplemental Instructors (SI) Information**

Mason Maupins  mmaupins@islander.tamucc.edu
Kohen Scott  kscott8@islander.tamucc.edu
F. STUDENT LEARNING OUTCOMES AND ASSESSMENT

Assessment is a process used by instructors to improve learning. Assessment is essential for effective learning because it provides feedback to 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 able to:

- Understand the forces which hold molecules together and how these forces affect physical properties
- Comprehend the principles governing rates of chemical reactions and calculate and perform associated kinetic calculations
- Write and quantitatively evaluate chemical equilibrium expressions
- Use thermodynamic principles and calculations to predict spontaneous changes
- Use electrochemical principles to balance redox reactions and quantitatively evaluate electrochemical systems

G. INSTRUCTIONAL METHODS

We will meet face-to-face and I will present lectures in the style of PowerPoint slides, and some classes will involve an activity. 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. Occasionally, in-class activities will replace a traditional lecture – please refer to section J for further details regarding in-class activities. Course grades will be determined based on a student’s completion and scores received on three midterm exams, a final exam, online homework (ALEKS and Connect), in-class activities, and the associated laboratory course.

H. MAJOR COURSE REQUIREMENTS AND GRADING

<table>
<thead>
<tr>
<th>Evaluation</th>
<th>Percentage</th>
<th>Final Letter Grading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>12.5%</td>
<td>A &gt; 90%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>12.5%</td>
<td>B 80 - 89%</td>
</tr>
<tr>
<td>Exam 3</td>
<td>12.5%</td>
<td>C 70 - 79%</td>
</tr>
<tr>
<td>Final exam</td>
<td>12.5%</td>
<td>D 60 - 69%</td>
</tr>
<tr>
<td>ALEKS</td>
<td>15%</td>
<td>F &lt; 60%</td>
</tr>
<tr>
<td>Connect (Homework/LearnSmart)</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td></td>
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</table>

Final Grades

Final grades will be calculated according to the following grade distribution, and a corresponding letter will be assigned for each numeric grade. Final grades are non-negotiable.

Exam Format

Each exam will consist of an in-class portion (75% of total exam grade) and a take-home portion (25% of total exam grade). The in-class portion of the exam will be given on the exam date indicated in this syllabus. The take-home portion will be distributed to the students one week prior to the scheduled exam date, and the completed document will be due at the beginning of the in-class portion of the exam.

The in-class portion will consist of multiple choice questions, and will be taken by each student independently. The take-home portion (a problem set) will consist of free-response questions where students will be expected to perform calculation, explain concepts, write and balance chemical equations, etc. Students will be able to work in groups (maximum group size = 3 students) for the take-home portion of each exam. Consulting CASA, SI leaders, or anyone other than the course instructor or the group members indicated on their exam is a violation of the exam policy. Students may use online resources to complete the take-home portion of the exam, but use of online question forums (e.g., Yahoo Answers) is prohibited. Any student found in violation of the exam policies is considered cheating and will be handled using an academic misconduct incident form. Details regarding the academic misconduct process can be found at: http://studentaffairs.tamucc.edu/AcademicMisconduct.html

Online Homework

Online homework will be used to assess a student’s knowledge of the concepts learned in this course. These programs allow the student to practice and master the material on their own. Utilization of such programs have shown to improve students’ overall class performance. Due dates for these assignments can be found within each online program.
ALEKS is an artificial intelligence program that evaluates your current level of knowledge for this course, and has you complete objectives to help master the material. The more you already know about the course, the fewer objectives you have to complete. The less you know, the more objectives. Students should expect to spend a minimum of 3 hours per week on ALEKS objectives. Half of the ALEKS grade is based on completing objectives according to the timeline, and half is for completing all objectives throughout the semester (overall pie progress).

Connect (Homework and LearnSmart) is comprised of two sets of assignments. Homework assignments contain practice problems, and LearnSmart assignments test the student’s knowledge of concepts and theories.

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 the student’s responsibility to become familiar with the pertinent information prior to each lab. The instructor and SI leaders 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 the lab instructor.

I. COURSE CONTENT & SCHEDULES

This course 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 Islander email regularly. You should read the specified textbook chapters before attending class. Lectures are a supplement (not replacement) for the textbook.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Chapter</th>
<th>Topics</th>
<th>Lecture Dates (2016)</th>
<th>*Exam Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12-13</td>
<td>Keys to the study of chemistry</td>
<td>1/18 – 2/17</td>
<td>Exam 1 (CH 12-13, 16) 2/22 (Wednesday)</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>The components of matter</td>
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<td></td>
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<tr>
<td></td>
<td>16</td>
<td>Stoichiometry of formulas and equations</td>
<td></td>
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<tr>
<td>2</td>
<td>17-19</td>
<td>Three major classes of chemical compounds</td>
<td>2/22 – 3/31</td>
<td>Exam 2 (CH 17 – 19) 4/7 (Friday)</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>Gases and kinetic-molecular theory</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>Thermochemistry: Energy flow and chemical changes</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>20-21</td>
<td>Quantum theory and atomic structure</td>
<td>4/5 – 4/24</td>
<td>Exam 3 (CH 20 – 21) 4/28 (Friday)</td>
</tr>
<tr>
<td></td>
<td>21</td>
<td>Electron configuration and chemical periodicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review/Flex days</td>
<td></td>
<td>4/28 – 5/1</td>
<td>Final Exam (CH 12-13, 16 – 21)</td>
</tr>
</tbody>
</table>

*Exams 1 – 3 will be taken during regular class time

<table>
<thead>
<tr>
<th>FALL 2016 FINAL EXAMINATION SCHEDULE</th>
<th>Final Exam Date</th>
<th>*Final Exam Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1412.002 (9:00 – 9:50 am)</td>
<td>Wednesday 5/10</td>
<td>8:00 am – 10:30 am</td>
</tr>
<tr>
<td>CHEM 1412.001 (10:00 – 10:50 pm)</td>
<td>Monday 5/8</td>
<td>8:00 am – 10:30 am</td>
</tr>
</tbody>
</table>

*Please note that exam start time may be different than normal class start time

University Final Exam Schedule: [http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html)

J. COURSE POLICIES

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 be directly factored into the course grade. Absences are not excusable for any reason. It is the responsibility of the student to obtain missed class materials from Blackboard. Attendance is required for in-class activities. No makeups will be given. The following is an incentive for good attendance: **If a student has at least 75% attendance at the end of the semester, then the final exam grade may replace a single lower mid-term exam (exam 1, exam 2, or exam 3) grade.**
Cell phone use: Set to silent (not vibrate), please. Any student with an excessively disruptive cell phone will be asked to leave, and this includes exam days.

Electronic devices during 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. Programmable calculators are permitted, but storage/retrieval of information during an exam will be considered an attempt to cheat and will be handled accordingly.

Exam make-ups: No make-up exams will be given after the original scheduled date of the exam. Certain circumstances may warrant a make-up exam and require notification, documentation, and arrangements be made prior (≥3 days) to the missed exam. All make-up exams must be taken prior to the original exam date. These situations will be handled on a case-by-case basis and are at the instructor’s discretion. If a student unintentionally misses an exam (e.g., overslept, car trouble, illness, etc.), then the student’s final exam grade may replace the missed test only if the student has an attendance record of at least 75%. No make-up exams are given due to intentional or unintentional absences.

Food in class: Generally, avoid eating food during class. Water and caffeinated beverages are fine, just keep them under control.

In-class activities: Occasionally, in-class activities will take the place of a traditional lecture. Each in-class activity may replace one assignment in Connect (1 activity = 1 Connect homework OR 1 Connect LearnSmart). No make-ups are given for in-class activities. Dates for these activities will be announced in class and on Blackboard throughout the semester.

Laptops: Laptops/tablets are permitted during lecture and encouraged to facilitate learning of course-related material. Laptops may not be used during exams.

Late arrival on exam day: Any student arriving more than 5 minutes late to an exam will have 5 points deducted from his/her exam grade. Being late on exam day is highly disruptive to all students. No additional time will be given to a student arriving late.

Late work/assignments: Online homework will not be accepted after the set due date.

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 be factored into a student’s grade.

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. Studies have shown that students who attend SI sessions earn 0.5 – 1.0 GPA points higher than students who do not attend SI sessions.

Blackboard and Islander email account: It is the student’s responsibility to check the course Blackboard site and their Islander email accounts regularly (i.e., every day). All important announcements and changes will be communicated this way.

Tutoring and test-taking strategies: You want 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 for chemistry and math, can help with test-taking strategies, and offer writing services. Please visit http://casa.tamucc.edu/ for their hours of operation and schedules.

  University Counseling Center (UCC): (361-825-2703): They can anonymously help with test anxiety, stress problems, or any other mental wellness-related issues for free. Please visit http://counseling.tamucc.edu/ for additional information.
K. 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](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](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 statue 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/](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.

L. OTHER INFORMATION
   ▪ Academic Advising
     The College of Science & Engineering requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. Meetings are by appointment only; advisors do not take walk-ins. Please call or stop by the Advising Center to check availability and schedule an appointment. The College’s Academic Advising Center is located in Center for Instruction 350 or can be reached at (361) 825-3928.

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.

GENERAL DISCLAIMER
I reserve the right to modify the information, schedule, assignments, deadlines, and course policies in this syllabus if and when necessary. I will announce such changes in a timely manner during regularly scheduled lecture periods.