GENERAL CHEMISTRY II 1412 – W03
Department of Physical and Environmental Sciences
Fall 2020

A. COURSE INFORMATION
   Course number/section: CHEM II 1412-W03
   Class meeting time: Online
   Class location: Online
   Course Website: bb9.tamucc.edu

B. INSTRUCTOR INFORMATION
   Instructor: Dr. Shreyashi Ganguly
   Office location: CS 246
   Office hours: MW: 10 AM - 12 PM and F: 10 AM - 11 AM
   Telephone: 361-825-4060
   e-mail: shreyashi.ganguly@tamucc.edu
   Appointments: Appointments can be made via email

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

D. PREREQUISITES AND COREQUISITES
   Prerequisites
      General Chemistry I (CHEM 1411)
   Co-requisites
      Student Laboratory Safety Training (SMTE-0093)

E. REQUIRED TEXTBOOK(S), READINGS AND SUPPLIES
      Martin Silberberg and Patricia Amateis, McGraw-Hill
   Online Homework: You must have the code that accompanies the text to enroll in
      the online homework Connect and LearnSmart. You can also buy the e-version of
      the text and the code online. All students are required to start online work the first
      week of school. Regular assignments will be posted and students are required to
      complete the assignments on-time.
Supplies: Nonprogrammable Scientific Calculator and Periodic Table

F. 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 able to understand:

- Colligative Properties
- Factors that affect reaction rates
- The Rate Law: The Effect of Concentration on Rate
- The Change of Concentration with Time
- The concept of Equilibrium
- Interpreting and Working with equilibrium Constants
- Heterogeneous equilibria
- Calculating Equilibrium Constants
- Le Chatelier's Principle
- Bronsted-Lowry Acids and bases
- The Autoionization of Water
- The pH Scale
- Strong Acids and Bases
- Weak Acids and Bases
- Relationship between Ka and Kb
- Lewis acids and Bases
- The Common-Ion Effect
- Solubility Equilibria
- Factors that Affect Solubility
- Chemical Thermodynamics
- Spontaneous Process
- Entropy and the Second Law of Thermodynamics
- Entropy Changes in Chemical Reactions
- Gibbs Free Energy
- Oxidation States and Oxidation-Reduction Reactions
- Balancing Oxidation-Reduction Reactions
- Free Energy and Redox Reactions
- Cell EMF Under Nonstandard Conditions
G. INSTRUCTIONAL METHODS AND ACTIVITIES

The course is given by online recorded lectures augmented with PowerPoint slides. Sample problems are presented in the Powerpoint slides. There will be three online exams in Connect and one final exam which will be cumulative. Online homework is required on Connect. There is also a LABORATORY associated with the course, which is taught by another instructor.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Lecture Evaluation:

Exam total 450 (45%)
Final exam 150 (15%)
Connect Homework 150 (15%)
Laboratory 250 (25%)

Final letter grading for the course will be as follows: A = 90% + ; B = 80% + ; C = 70% +; D = 60% + ; F = < 60%.

I. COURSE CONTENT/SCHEDULE

The schedule below is a preliminary outline of the semester. It is your responsibility to keep up with the changes to this schedule. The reading and problems assignments should be completed before the due dates. Failure to stay current on reading and problem assignments will greatly affect your ability to keep up during lecture and will affect your grade in this course.

<table>
<thead>
<tr>
<th>DATE (BY DAY OR WEEK)</th>
<th>TOPIC</th>
<th>CHAPTER(S)</th>
<th>ASSIGNMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Intermolecular forces</td>
<td>Chapter 12</td>
<td>On Connect</td>
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<tr>
<td>Week 2</td>
<td>Intermolecular forces &amp; Properties of Mixtures</td>
<td>Chapter 12 and 13</td>
<td>On Connect</td>
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<tr>
<td>Week 3</td>
<td>Properties of Mixtures</td>
<td>Chapter 13</td>
<td>On Connect</td>
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<tr>
<td>Week 4</td>
<td>Exam 1</td>
<td>September 9 (on chapters 12 and 13)</td>
<td>On Connect</td>
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<tr>
<td>Week 5</td>
<td>Kinetics</td>
<td>Chapter 16</td>
<td>On Connect</td>
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<td>Week</td>
<td>Topic</td>
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<tr>
<td>6</td>
<td>Kinetics &amp; Equilibrium</td>
<td>16 and 17</td>
<td>On Connect</td>
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<tr>
<td>7</td>
<td>Equilibrium</td>
<td>17</td>
<td>On Connect</td>
</tr>
<tr>
<td>8</td>
<td>Acid-base equilibria</td>
<td>18</td>
<td>On Connect</td>
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<tr>
<td>9</td>
<td>Exam 2</td>
<td>October 7 (16 &amp; 17)</td>
<td>On Connect</td>
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<tr>
<td>10</td>
<td>Acid-base equilibria &amp; Ionic</td>
<td>18 &amp; 19</td>
<td>On Connect</td>
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<tr>
<td>11</td>
<td>Ionic equilibria</td>
<td>19</td>
<td>On Connect</td>
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<tr>
<td>12</td>
<td>Thermodynamics</td>
<td>20</td>
<td>On Connect</td>
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<tr>
<td>13</td>
<td>Thermodynamics &amp; Electrochemistry</td>
<td>20 &amp; 21</td>
<td>On Connect</td>
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<td>14</td>
<td>Exam 3</td>
<td>November 11 (18 &amp; 19)</td>
<td>On Connect</td>
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<td>15</td>
<td>Electrochemistry</td>
<td>21</td>
<td>On Connect</td>
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<tr>
<td>16</td>
<td>Review</td>
<td></td>
<td>On Connect</td>
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<td></td>
<td>Final exam</td>
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**Connect homework deadlines:**
Chapters 12, 13, 16 and 17 = August 19 – October 11
Chapters 18, 19, 20 and 21 = October 12 – December 6

**Holidays:**
September 7: Labor day
November 25: Reading day
November 26-27: Thanksgiving

**J. COURSE POLICIES**

**COVID-19**
Face Coverings— TAMUCC-Face Coverings (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Extra masks will be made available if needed.
Attendance/Tardiness
Although this is a totally online class, it is a high intensity and fast paced class. The recorded Powerpoint presentations will be uploaded weekly for you to review. It is students responsibility to go through the lectures and email instructor with any question they have. There are total of 8 chapters and 4 exams in total which includes final exam.

Late Work and Make-up Exams

There will be no make-up exams for this class. Certain university-related circumstances may warrant a makeup exam with prior notification, documentation, and arrangements. Also all homeworks on Connect have deadline, so it is also student's responsibility to complete it within the deadline.

Extra Credit

There is no extra credit in this course. The grade is determined as per “Section H” above.

Cell Phone Use and Laptop Use

For the online class it is imperative that you have either a laptop or desktop to complete your online homeworks and exams on Connect.

Missed Exam

See Late Work and Make-Up Exams above.

Participation

It is the student’s responsibility to read and be aware of the contents of this syllabus and the course website on Blackboard. Announcements and changes are communicated via Blackboard and/or emails.

Tutoring and Test-Taking Strategies

To be successful in this course, and most others, you must develop good note-taking skills, organization skills, study habits, and test-taking strategies from the very beginning. Your instructor is always available for help, but don’t wait until it’s too late! It is important that you are aware that the Center for Academic Student Achievement provides free tutoring, test-taking strategies, and extra help. Take advantage of this service! Should you have test anxiety, stress
problems, or need help with study skills, the University Counseling Center (Driftwood Building: 825-2703) provides a free service.

(NOTE: I reserve the right to alter the type and number of testing/lectures, grand total points, and course materials, as required during the semester)

COLLEGE AND UNIVERSITY POLICIES

- **Academic Integrity (University)**
  University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism. (Plagiarism is the presentation of the work of another as one’s own work.) In this class, academic misconduct or complicity in an act of academic misconduct on an assignment or test will result in a failing grade.

- **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)**
  I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. **Please consult with your academic advisor, the Financial Aid Office, and me, before you decide to drop this course.** Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. 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.C0.03, 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 required 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.C0.03, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf](http://academicaffairs.tamucc.edu/rules_procedures/assets/13.02.99.c0.03_student_grade_appeals.pdf). 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/](http://disabilityservices.tamucc.edu/)

• **Civil Rights Complaints**
  Texas A&M University-Corpus Christi is committed to fostering a culture of caring and respect that is free from discrimination, relationship violence and sexual misconduct, and ensuring that all affected students have access to services. For information on reporting Civil Rights complaints, options and support resources (including pregnancy support accommodations) or university policies and procedures, please contact the University Title IX Coordinator, Sam Ramirez (Samuel.ramirez@tamucc.edu) or Deputy Title IX Coordinator, Rosie Ruiz (Rosie.Ruiz@tamucc.edu) x5826, or visit website at [Title IX/Sexual Assault/Pregnancy](http://www.tamucc.edu/).
**Limits to Confidentiality.** Essays, journals, and other materials submitted for this class are generally considered confidential pursuant to the University's student record policies. However, students should be aware that University employees, including instructors, are not able to maintain confidentiality when it conflicts with their responsibility to report alleged or suspected civil rights discrimination that is observed by or made known to an employee in the course and scope of their employment. As the instructor, I must report allegations of civil rights discrimination, including sexual assault, relationship violence, stalking, or sexual harassment to the Title IX Coordinator if you share it with me.

These reports will trigger contact with you from the Civil Rights/Title IX Compliance office who will inform you of your options and resources regarding the incident that you have shared. If you would like to talk about these incidents in a confidential setting, you are encouraged to make an appointment with counselors in the University Counseling Center.

**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 would 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.

**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.
(NOTE: I reserve the right to alter the type and number of testing/lectures, grand total points, and course materials, as required during the semester)

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.