**A. COURSE INFORMATION**

<table>
<thead>
<tr>
<th>CHEM 1411</th>
<th>Section</th>
<th>Day/time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM1411.001</td>
<td>52552</td>
<td>MWF 11:00 – 11:50 am</td>
<td>EN 101</td>
</tr>
<tr>
<td>CHEM1411.004</td>
<td>52555</td>
<td>MWF 12:00 – 12:50 pm</td>
<td>EN 101</td>
</tr>
<tr>
<td>CHEM1411.007</td>
<td>53574</td>
<td>MWF 1:00 – 1:50 pm</td>
<td>EN 101</td>
</tr>
</tbody>
</table>

Course website  
[https://bb9.tamucc.edu](https://bb9.tamucc.edu)

**B. INSTRUCTOR INFORMATION**

Instructor: Dr. Amanda Willoughby  
Office location: CS 105  
Office hours:  
M 9:00 – 10:40 am  
W 9:00 – 10:40 am  
F 9:00 – 10:40 am  
Email: amanda.willoughby@tamucc.edu

**C. COURSE DESCRIPTION**

The foundation course in chemistry. Stoichiometry, chemical equilibria, atomic structure, chemical bonding, periodic properties, thermodynamics, chemical kinetics, and descriptive chemistry of the elements. 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: there are no official prerequisites for this course  
Co-requisites: All students must be registered for an associated CHEM1411 laboratory course and SMTE0093

**E. REQUIRED TEXTBOOKS AND SUPPLIES**

**Textbook:** Chemistry: The Molecular Nature of Matter and Change, 8th Edition, Silberberg and Armateis, McGraw-Hill (with the ALEKS Access Code). Note: the university bookstore packages include a Connect access code. This Connect code is unnecessary for the course, but, to my knowledge, is free with the bookstore package that includes the physical textbook. **Do not purchase a separate Connect access code.**

**Online Homework Access Code:** You must have the ALEKS access code that accompany the text to enroll in the online homework. All students are required to start ALEKS the first week of class. Failure to obtain access may result in a negative impact on your grade. Specific due dates for each assignment can be found online within the ALEKS program. An access code bought for this course previously may be reused if it has not expired. Students are responsible for determining the expiration date and purchasing a new code, if necessary.

**Link for online homework:**

ALEKS: [https://www.aleks.com/](https://www.aleks.com/)  
Course code: 9WVAC-NQ6PY  
Instructions on how to set up the account, or switch an existing account to this course can be found on Blackboard.

**Exam Dates**

- Exam 1: Friday, February 16
- Exam 2: Wednesday, March 28
- Exam 3: Wednesday, April 18
- Final Exam: See University Final Exam Schedule  
  ([http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html](http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html))

*Required items: pencil & non-programmable calculator*

**Last day to drop course**  
**April 6, 2018**
Online technical support
TAMUCC accounts (Email, Blackboard, etc.) ithelp@tamucc.edu
ALEKS http://support.aleks.com/

Necessary supplies: A nonprogrammable scientific calculator. Students will not be permitted to use programmable calculators during exams. I recommend a two-line TI-30.

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 only 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/

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:

1. Correlate the atomic structure of an element to its physical and chemical properties
2. Describe how atoms are held together in compounds and how that relates to observed chemical and physical properties.
3. Relate the interactions between light and matter
4. Use the stoichiometric relationships of chemical substances and reactions to solve quantitative problems
5. Write and balance major classes of chemical reactions
6. Qualitatively and quantitatively evaluate how energy flows in chemical reactions and physical changes
7. Begin to relate chemistry topics to their intended field of study

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 may 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 mid-term exams (exams 1 – 3), a final exam, online homework (ALEKS), and the associated laboratory course.

H. MAJOR COURSE REQUIREMENTS AND GRADING

Final Grades
Final grades will be calculated according to the grade distribution in the table, and a corresponding letter will be assigned for each numeric grade. Final grades are non-negotiable, and are assigned according to the distribution (to the right) to assess your mastery of the material. Final grades will not be assigned on a need or want basis.

Exam Format
All exams will be given in class on the scheduled exam date. Students will complete all exam independently using a non-programmable scientific calculator. Exams will be closed-book and consist of multiple choice questions.
Online Homework

Online homework (ALEKS) 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 the online program.

ALEKS is an artificial intelligence program that evaluates your current level of knowledge for the material presented in this course, and you will 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, and most students will spend more than 3 hours per week. Half of the ALEKS grade is based on completing objectives according to the timeline (the average of the individual objectives scores), and half is for completing all objectives throughout the semester (overall pie progress). The overall pie progress score will be assessed at the end of the semester only.

Laboratory

The lab portion of the course makes up 25% of the course grade. Lab is meant to complement topics learned in lecture; however, on occasion, you may be required to learn concepts for the lab that have not yet or will not be reviewed in lecture. It is the student’s responsibility to become familiar with the pertinent information prior to each lab. The lecture 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 required textbook.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Chapter</th>
<th>Topics</th>
<th>Lecture Dates (2018)</th>
<th>*Exam Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Keys to the study of chemistry</td>
<td>1/17 – 2/14</td>
<td>Exam 1 (CH 1 – 3) 2/16 (Friday)</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>The components of matter</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Stoichiometry of formulas and equations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>Three major classes of chemical reactions</td>
<td>2/19 – 3/26</td>
<td>Exam 2 (CH 4 – 6) 3/28 (Wednesday)</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>Gases</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>Thermochemistry: Energy flow and chemical changes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>Quantum theory and atomic structure</td>
<td>3/30 – 4/16</td>
<td>Exam 1 (CH 7 – 9) 4/18 (Wednesday)</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>Electron configuration and chemical periodicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>Models of chemical bonding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>The shapes of molecules</td>
<td>4/20 – 4/30</td>
<td>Final exam (CH 1 – 11) See schedule below</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>Theories of covalent bonding</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Final Exam Date (2018) and **Final Exam Time**

<table>
<thead>
<tr>
<th>Class and lecture time</th>
<th>Final Exam Date (2018)</th>
<th>**Final Exam Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 1411.001 (11:00 – 11:50 pm)</td>
<td>Friday 5/4</td>
<td>11:00 am – 1:30 pm</td>
</tr>
<tr>
<td>CHEM 1411.004 (12:00 – 12:50 pm)</td>
<td>Wednesday 5/9</td>
<td>11:00 am – 1:30 pm</td>
</tr>
<tr>
<td>CHEM 1411.007 (1:00 – 1:50 pm)</td>
<td>Monday 5/7</td>
<td>11:00 am – 1:30 pm</td>
</tr>
</tbody>
</table>

*All final exams will take place in the normal lecture classroom.

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

This schedule is tentative and the official University Final Exam Schedule will be followed: http://registrar.tamucc.edu/Register%20for%20Classes/Final_Exams.html
J. COURSE POLICIES

Attendance: Come to every class, be there on time, and stay for the entire class. Attendance will be taken, but only in an effort to monitor student engagement, but 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 to receive credit for in-class activities. No makeups will be given for missed activities, but the materials for the activity will be made available on Blackboard.

Cell phone use: Set to silent (not vibrate), please. Any student with an excessively disruptive cell phone will be asked to leave.

Electronic devices during exams: The use any electronic device besides an approved, nonprogrammable calculator is prohibited on 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.

Emailing the instructor: I want an open line of communication with my students. However, I typically have between 300 – 400 students per semester, and receive a high volume of emails. I ask that you first check this syllabus and any information I have shared on Blackboard before sending me an email to avoid asking questions that I have already answered. Additionally, asking direct questions and providing me with as much information as possible will help me to answer your question more quickly. It will likely take more time to respond to open-ended or unclear questions that require lengthy responses. Please be patient with responses. If you do not receive a response to your question within 48 hours, then please feel free to kindly remind me about it. I ask that you first check this syllabus and any information I have shared on Blackboard before sending me an email to avoid asking questions that I have already answered. Additionally, asking direct questions and providing me with as much information as possible will help me to answer your question more quickly. It will likely take more time to respond to open-ended or unclear questions that require lengthy responses. Please be patient with responses. If you do not receive a response to your question within 48 hours, then please feel free to kindly remind me about it. Please direct all lab-related questions to your lab instructor.

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 (≥1 week) to the exam to be missed. 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 one missed exam. Any subsequent missed exam will result in a grade of zero that cannot be replaced. No make-up exams are given due to intentional or unintentional absences.

Final exam: The final exam is mandatory for all students, and comprises 15% of your course grade. The final exam is cumulative and will take place during the university-scheduled time for this course. The final exam replaces one missed exam or one lower exam grade. If your final exam is higher than any one midterm exam (exam 1, 2, OR 3), then the final will count as 30% of your grade, the highest midterm exam counts as 15%, and the second highest exam counts as 15%. If your final exam is your lowest grade, then it counts as 15% of your grade, and each of the midterms counts as 15% of your grade as outlined in section H.

Food in class: Generally, avoid eating during class. Water and caffeinated beverages are acceptable, but please clean up any mess you make. No food or beverages will be permitted on the testing surface during an exam.

In-class activities: Occasionally, in-class activities will take the place of a traditional lecture. Grade incentives will be offered for each activity. No make-ups are given for a missed in-class activity. Dates for these activities will be announced in class throughout the semester. It is the student’s responsibility to attend lecture to find out dates of in-class activities.

Laptops: Laptops/tablets are permitted during lecture and encouraged to facilitate learning of course-related material. These devices 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. Students should properly manage time spent on online homework assignments to ensure completion by the set deadlines. Extensions are not given – partial credit is indirectly earned back by completing missed topics, which goes towards the overall pie progress grade.

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. Active participation in the in-class activities is required to receive the grade incentive.
SI Leaders: Supplemental instruction leaders are undergraduates who were previously 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 (a half or whole letter grade) 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). Important announcements and changes to the course schedule will be communicated this 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 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

- 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/) 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 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/

- **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.