

**Texas A&M International University**  
**Chemistry 1311**  
**General Chemistry I**  
**Spring 2013**

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**Contact Information**

<b>Instructor:</b>	<b>Kameron R. Jorgensen</b>
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<b>Office Hours:</b>	M 11:30 AM – 12:30 PM T 12:30 PM – 2:30 PM W 3:30 PM – 5:30 PM and by appointment.

**Class Schedule**

<b>Lecture:</b>	MWF 10:30 AM – 11:20 AM (Canseco Hall 101)
<b>Discussion:</b>	W 12:30 PM – 1:20 PM (Bullock Hall 118)

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**Course Description**

General Chemistry I is a study of the fundamental theories and principles of chemistry. General Chemistry is the introductory university level course for students pursuing further study in science. A solid foundation in chemical principles is needed for continuing your studies in chemistry, biology, engineering, geology, physics, health sciences and environmental studies. This course will work to emphasize the integration of concepts and applications with factual information and to stress approaches to both conceptual and numerical problem solving. Throughout the course chemistry will be used to understand everyday phenomena, to evaluate the risks and benefits environmental issues, and be related to other disciplines.

**Course Pre-requisite**

Successful completion of high school chemistry or equivalent.

**Textbook/Materials**

- Chemistry, The Science in Context. Gilbert, Kirss, Foster and Davies, 3rd Edition, W. W. Norton, 2011, (ISBN: 9780393934311) which includes the SmartWork online homework system.
- Scientific Calculator.

**Course Objectives**

- Students will understand the general principles of chemistry. They will compare, contrast and predict physical & chemical properties based on atomic and molecular structure
- Student will demonstrate the ability to solve quantitative problems.
- Students will recognize the role of chemistry in real world issues.
- Students will demonstrate knowledge of common reactions and reaction mechanisms of the elements & compounds.
- Students will be prepared for subsequent high level chemistry courses.

**Student Learning Outcomes:** Upon completion of the course students will be able to:

1. Discuss how the scientific method is applied in the study of science in general and chemistry in particular.
2. Classify states of matter, substances and mixture, elements and compounds, chemical symbols.
3. Apply knowledge of periodic table and compounds to predict shapes, trends, intermolecular bonding and nature of compounds.
4. Apply chemical concepts and deduce its importance to the study of chemistry.
5. Contrast the similarities and differences in chemical concepts that will be discussed.

- Collaborate effectively on a research project and oral presentation.
- Solve chemical problems based on formulas, concepts introduced in class and also using fundamental principles like unit conversion.
- Communicate scientific findings, thoughts accurately and also being involved in discussions on how science and technology affects our lives daily.

### Core-Curriculum Learning Outcomes:

- Critical Thinking: includes creative thinking, innovation, inquiry and analysis, evaluation, and synthesis of information. (SLOs: 1, 3, 7)
- Communication Skills: Students will demonstrate their ability to communicate effectively by using written communication. (SLOs: 8)
- Empirical and Quantitative Skills: includes the manipulation and analysis of numerical data or observable facts resulting in informed conclusions. (SLOs: 7)
- Teamwork: includes the ability to work effectively with others to support a shared goal. (SLOs: 6)

### Lecture Schedule

Week	Day	Date	Ch.	Title
1	W	Jan 23	1	Matter Energy & the Origins of the Universe
	F	Jan 25	1	Matter Energy & the Origins of the Universe
2	M	Jan 28	2	Atoms, ions & Compounds (HW Ch1 Due)
	W	Jan 30	2	Atoms, ions & Compounds
	F	Feb 1	2	Atoms, ions & Compounds
3	M	Feb 4	3	Chemical Reactions & Earth's Composition (HW Ch2 Due)
	W	Feb 6	3	<b>Exam 1</b> - Chapters 1&2
	F	Feb 8	3	Chemical Reactions & Earth's Composition
4	M	Feb 11	3	Chemical Reactions & Earth's Composition
	W	Feb 13	3	Chemical Reactions & Earth's Composition
	F	Feb 15	3	Chemical Reactions & Earth's Composition
5	M	Feb 18	4	Solution Chemistry & the Hydrosphere (HW Ch3 Due)
	W	Feb 20	4	Solution Chemistry & the Hydrosphere
	F	Feb 22	4	Solution Chemistry & the Hydrosphere
6	M	Feb 25	4	Solution Chemistry & the Hydrosphere
	W	Feb 27	4	Solution Chemistry & the Hydrosphere
	F	Mar 1	5	Thermochemistry (HW Ch4 Due)
7	M	Mar 4	5	Thermochemistry
	W	Mar 6	3,4	<b>Exam 2</b> - Chapters 3&4
	F	Mar 8	5	Thermochemistry (Mid-semester)
8	MWF	Mar 11-16	--	SPRING BREAK --- No Classes
9	M	Mar 18	5	Thermochemistry
	W	Mar 20	6	Properties of Gases (HW Ch5 Due)
	F	Mar 22	6	Properties of Gases
10	M	Mar 25	7	Electrons in Atoms & Periodic Properties (HW Ch6 Due)
	W	Mar 27	7	Electrons in Atoms & Periodic Properties
	F	Mar 29	--	Easter Holiday --- No Class
11	M	Apr 1	7	Electrons in Atoms & Periodic Properties
	W	Apr 3	5,6,7	<b>Exam 3</b> - Chapters 5,6&7
	F	Apr 5	8	Chemical bonding & Climate Change (HW Ch7 Due)
12	M	Apr 8		Group Assignment
	W	Apr 10		Group Assignment
	F	Apr 12	8	Chemical bonding & Climate Change

13	M	Apr 15	8	Chemical bonding & Climate Change
	W	Apr 17	8	Chemical bonding & Climate Change
	F	Apr 19	8	Chemical bonding & Climate Change
14	M	Apr 22	9	Molecular Geometry and Bonding Theories (HW Ch8 Due)
	W	Apr 24	9	Molecular Geometry and Bonding Theories
	F	Apr 26	9	Molecular Geometry and Bonding Theories
15	M	Apr 29	9	Molecular Geometry and Bonding Theories
	W	May 1	8,9	<b>Exam 4</b> - Chapters 8&9
	F	May 3		Group Assignment (HW Ch9 Due)
16	M	May 6		Review
	W	May 8	--	READING DAY--- No Class
	W	May 15		<b>8am – 10am ****FINAL EXAM****</b>

### Grade Distribution

As your instructor, my goal is to help and encourage you to learn. All students learn differently, thus I try to utilize a broad range of methods and assignments. This means that there will be a lot of different opportunities for you to apply the concepts we will be investigating this semester. Correspondingly, there are many different ways to earn points and demonstrate your understanding of the material in this course. Grades on all assignments will be given in points. Points in all categories will be approximately equivalent.

Each category will be weighted as stated below.

Exams (best 3 out of 4 exams @ 100pts each):	300 points
Final Exam:	200 points
Quizzes:	100 points
Homework:	75 points
Group Assignment:	75 points
Laboratory Component:	<u>250 points</u>
Total:	1000 points

Letter grade assignment:
<b>A</b> 900 – 1000 points
<b>B</b> 800 – 899 points
<b>C</b> 700 – 799 points
<b>D</b> 600 – 699 points
<b>F</b> 0 – 600 points

To be graded on the grading scale defined above, you must complete all the course requirements listed below:

1. Pass the final exam (> 130 points).
2. Pass the laboratory portion of the course (> 130 points).

Failing to meet one or more of these requirements will result in a student not be graded by the grading scale described in the previous section. Grades in these cases are determined on an individual basis and are at the instructor's discretion. In general, you may expect at least a one-grade penalty for each requirement which is not fulfilled. Thus, failing the final, skipping an excessive number of homework assignments or in-class assignments may result in a grade lower than the number of points you have accumulated would otherwise indicate.

If you feel that an error was made in the grading of homework or exams, you may request a re-grade by notifying the instructor within **one week** of receiving it.

### Exams

There will be four "one hour" exams. The tests will be approximately 50% to 70% multiple choice questions and 30% to 50% written problems. Each hourly exam will count 100 points. The lowest of the four hourly exams will be dropped prior to computing your average.

There will be a 2 hour comprehensive final exam. The exam will be composed of 80% multiple choice questions and 20% written problems. The final will count 200 points.

All four exams must be taken during the regularly scheduled times. Exams cannot be taken outside the scheduled time.

There will **not** be any makeup exams. A missed exam will count as your dropped test (excluding a **well documented** serious illness, requiring hospitalization).

If classes are cancelled by the University on the day of a scheduled exam, then the test is automatically scheduled for the next class lecture period.

### **Quizzes**

Short weekly quizzes will be given **every Monday** at the beginning of class over the material covered from the previous week. There will be **no** make-up quizzes.

### **Homework**

Homework for each chapter will be collected the class period following the final lecture for that chapter. You are **strongly encouraged** to work all the required homework and supplemental problems assigned, since problems and questions on the exams will be based upon homework and examples worked in class. Homework problems will be assigned from exercises at the end of each chapter. Supplemental problems along with solutions will be posted on Angel.

### **Group Assignments**

You will be assigned groups/group projects which is intended to provide hands-on participation in problem-based activities on concepts covered in class. More information will be provided in class and through Angel.

### **Notes for Success**

It has been the Instructor's experience that the students who do the following, in the indicated sequence, generally obtain higher grades in the class.

1. Read the relevant chapter once lightly before attending the class (even though it may not be well understood at that point).
2. Regularly attend (and participate in) the lectures to obtain a verbal presentation of the material in a somewhat different fashion with important points emphasized.
3. Read the chapter a second time (more carefully), while simultaneously reviewing the lecture notes, and doing the assigned problems within the chapter.

The lecture notes along with the added notes you mark on them while simultaneously reading the chapter, make an excellent study summary to focus on in preparing for the exams.

### **Attendance Policy**

Students who have three or more un-excused absences will receive an "F" in the course. It is the responsibility of each student to promptly notify the instructor if there is an absence for the lecture, laboratory sessions or examinations. If the student is excused from an examination, performance on the final examination will be used to replace the exam grade missed. **NO MAKEUP EXAMINATIONS** are given whatsoever! All unexcused assignments and examinations will be given a grade of **ZERO!**

Class courtesy is also an important aspect of the course and the use of cellular phones, unrelated discussions and interruption of the questions of fellow students is discouraged.

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## **Policies of the College of Arts and Sciences** (Required on all COAS Syllabi)

### **Classroom Behavior**

The College of Arts and Sciences encourages classroom discussion and academic debate as an essential intellectual activity. It is essential that students learn to express and defend their beliefs, but it is also essential that they learn to listen and respond respectfully to others whose beliefs they may not share. The College will always tolerate diverse, unorthodox, and unpopular points of view, but it will not tolerate condescending or insulting remarks. When students verbally abuse or ridicule and

intimidate others whose views they do not agree with, they subvert the free exchange of ideas that should characterize a university classroom. If their actions are deemed by the professor to be disruptive, they will be subject to appropriate disciplinary action, which may include being involuntarily withdrawn from the class.

### **Plagiarism and Cheating**

Plagiarism is the presentation of someone else's work as your own. **1)** When you borrow someone else's facts, ideas, or opinions and put them entirely in your own words, you must acknowledge that these thoughts are not your own by immediately citing the source in your paper. Failure to do this is plagiarism. **2)** When you also borrow someone else's words (short phrases, clauses, or sentences), you must enclose the copied words in quotation marks as well as citing the source. Failure to do this is plagiarism. **3)** When you present someone else's paper or exam (stolen, borrowed, or bought) as your own, you have committed a clearly intentional form of intellectual theft and have put your academic future in jeopardy. This is the worst form of plagiarism.

Here is another explanation from the 2010, sixth edition of the *Manual of The American Psychological Association (APA)*:

*Plagiarism:* Researchers do not claim the words and ideas of another as their own; they give credit where credit is due. Quotations marks should be used to indicate the exact words of another. *Each* time you paraphrase another author (i.e., summarize a passage or rearrange the order of a sentence and change some of the words), you need to credit the source in the text.

The key element of this principle is that authors do not present the work of another as if it were their own words. This can extend to ideas as well as written words. If authors model a study after one done by someone else, the originating author should be given credit. If the rationale for a study was suggested in the Discussion section of someone else's article, the person should be given credit. Given the free exchange of ideas, which is very important for the health of intellectual discourse, authors may not know where an idea for a study originated. If authors do know, however, they should acknowledge the source; this includes personal communications. (pp. 15-16)

Consult the Writing Center or a recommended guide to documentation and research such as the *Manual of the APA* or the *MLA Handbook for Writers of Research Papers* for guidance on proper documentation. If you still have doubts concerning proper documentation, seek advice from your instructor prior to submitting a final draft.

**Penalties for Plagiarism:** Should a faculty member discover that a student has committed plagiarism, the student will receive a grade of 'F' in that course and the matter will be referred to the Honor Council for possible disciplinary action. The faculty member, however, has the right to give freshmen and sophomore students a "zero" for the assignment and to allow them to revise the assignment up to a grade of "F" (50%) if they believe that the student plagiarized out of ignorance or carelessness and not out of an attempt to deceive in order to earn an unmerited grade. This option is not available to juniors, seniors, or graduate students, who cannot reasonably claim ignorance of documentation rules as an excuse.

**Caution:** Be very careful what you upload to Turnitin or send to your professor for evaluation. Whatever you upload for evaluation will be considered your final, approved draft. If it is plagiarized, you will be held responsible. The excuse that "it was only a draft" will not be accepted.

**Caution:** Also, do not share your electronic files with others. If you do, you are responsible for the possible consequences. If another student takes your file of a paper and changes the name to his or her name and submits it and you also submit the paper, we will hold both of you responsible for plagiarism. It is impossible for us to know with certainty who wrote the paper and who stole it. And, of course, we cannot know if there was collusion between you and the other student in the matter.

**Penalties for Cheating:** Should a faculty member discover a student cheating on an exam or quiz or other class project, the student will receive a "zero" for the assignment and not be allowed to make the assignment up. The incident must be reported to the chair of the department and to the Honor Council. If the cheating is extensive, however, or if the assignment constitutes a major grade for the course (e.g., a final exam), or if the student has cheated in the past, the student should receive an "F" in the course, and the matter should be referred to the Honor Council. Under no circumstances should a student who deserves an "F" in the course be allowed to withdraw from the course with a "W."

**Student Right of Appeal:** Faculty will notify students immediately via the student's TAMIU e-mail account that they have submitted plagiarized work. Students have the right to appeal a faculty member's charge of academic dishonesty by notifying the TAMIU Honor Council of their intent to appeal as long as the notification of appeal comes within 3 business days of the faculty member's e-mail message to the student. The *Student Handbook* provides details.

### **UConnect, TAMIU E-Mail, and Dusty Alert**

Personal Announcements sent to students through TAMIU's UConnect Portal and TAMIU E-mail are the official means of communicating course and university business with students and faculty – not the U.S. Mail and not other e-mail addresses. Students and faculty must check UConnect and their TAMIU e-mail accounts regularly, if not daily. Not having seen an important TAMIU e-mail or UConnect message from a faculty member, chair, or dean is not accepted as an excuse for failure to take important action. Students, faculty, and staff are encouraged to sign-up for *Dusty Alert* (see [www.tamtu.edu](http://www.tamtu.edu)). *Dusty Alert* is

an instant cell phone text-messaging system allowing the university to communicate immediately with you if there is an on-campus emergency, something of immediate danger to you, or a campus closing.

### **Copyright Restrictions**

The Copyright Act of 1976 grants to copyright owners the exclusive right to reproduce their works and distribute copies of their work. Works that receive copyright protection include published works such as a textbook. Copying a textbook without permission from the owner of the copyright may constitute copyright infringement. Civil and criminal penalties may be assessed for copyright infringement. Civil penalties include damages up to \$100,000; criminal penalties include a fine up to \$250,000 and imprisonment.

### **Students with Disabilities**

Texas A&M International University seeks to provide reasonable accommodations for all qualified persons with disabilities. This University will adhere to all applicable federal, state, and local laws, regulations and guidelines with respect to providing reasonable accommodations as required to afford equal education opportunity. It is the student's responsibility to register with the Director of Student Counseling and to contact the faculty member in a timely fashion to arrange for suitable accommodations.

### **Incompletes**

Students who are unable to complete a course should withdraw from the course before the final date for withdrawal and receive a "W." To qualify for an "incomplete" and thus have the opportunity to complete the course at a later date, a student must meet the following criteria:

1. The student must have completed 90% of the course work assigned before the final date for withdrawing from a course with a "W", and the student must be passing the course;
2. The student cannot complete the course because an accident, an illness, or a traumatic personal or family event occurred after the final date for withdrawal from a course;
3. The student must sign an "Incomplete Grade Contract" and secure signatures of approval from the professor and the college dean.
4. The student must agree to complete the missing course work before the end of the next long semester; failure to meet this deadline will cause the "I" to automatically be converted to a "F"; extensions to this deadline may be granted by the dean of the college.

This is the general policy regarding the circumstances under which an "incomplete" may be granted, but under exceptional circumstances, a student may receive an incomplete who does not meet all of the criteria above if the faculty member, department chair, and dean recommend it.

### **Student Responsibility for Dropping a Course**

It is the responsibility of the STUDENT to drop the course before the final date for withdrawal from a course. Faculty members, in fact, may not drop a student from a course.

### **Independent Study Course**

Independent Study (IS) courses are offered only under exceptional circumstances. Required courses intended to build academic skills may not be taken as IS (e.g., clinical supervision and internships). No student will take more than one IS course per semester. Moreover, IS courses are limited to seniors and graduate students. Summer IS course must continue through both summer sessions.

### **Grade Changes & Appeals**

Faculty are authorized to change final grades only when they have committed a computational error, and they must receive the approval of their department chairs and the dean to change the grade. As part of that approval, they must attach a detailed explanation of the reason for the mistake. Only in rare cases would another reason be entertained as legitimate for a grade change. A student who is unhappy with his or her grade on an assignment must discuss the situation with the faculty member teaching the course. If students believe that they have been graded unfairly, they have the right to appeal the grade using a grade appeal process in the *Student Handbook* and the *Faculty Handbook*.

### **Final Examination**

Final Examination must be comprehensive and must contain a written component. The written component should comprise 20% of the final exam grade. Exceptions to this policy must receive the approval of the department chair and the dean at the beginning of the semester.

*For matters not covered in this syllabus, please consult the professor, or the college catalog/student handbook. This syllabus is not intended to be all inclusive of classroom and college policies and procedures.*