Course Syllabus: CHE 133—001/006  General Chemistry I—Fall 2012

Course Syllabus
Chemistry 133
General Chemistry I

Course Description: Atomic and molecular structures, stoichiometry, gas laws and thermodynamics.

Number of Credit Hours: 3 semester hours - 3 hours lecture per week

Course Prerequisites and Corequisites: Prerequisite: MTH 138 or concurrent enrollment. Corequisite: CHE 133L.

Program Learning Outcomes: There are no specific program learning outcomes for this major addressed in this course. This course is a general education core curriculum course and a service course.

General Education Core Curriculum Objectives:
- To understand and apply method and appropriate technology to the study of natural sciences.
- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretation both orally and in writing.
- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.
- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Course Objective: To provide students with an explanation of the basic concepts of chemistry and to apply these concepts to problem solving involving critical thinking.

Student Learning Outcomes: The student is expected to recognize and apply the following basic concepts to problem solving:
- Basic statistical methods used in chemistry such as significant figures, accuracy/precision, and uncertainty in measurements.
- Basic vocabulary used in chemistry such as nomenclature, notations for isotopes, and classification of matter.
- Basic calculations used in chemistry such as stoichiometry, gas laws, and thermochemistry.
- Basic structure of molecular and atomic systems used in chemistry such as Lewis structures, molecular geometry, bonding theories, and periodic trends.

Outline of Topics (approximate course time):
Chemistry and Measurement (5-15%)
Atoms, Elements, Molecules, Ions, and Compounds (5-15%)
Chemical Formulas and Equations (5-15%)
Chemical Reactions (5-15%)
Gases (5-15%)
Thermochemistry (5-15%)
Quantum Theory of the Atom (5-15%)
Periodic Properties of the Elements (5-15%)
Chemical Bonding – Lewis Structures (5-15%)
Molecular Geometry and Bonding Theory (5-15%)
Liquids, Solids, and Intermolecular Forces (5-15%)
Solutions (5-15%)
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**Classroom:**  
Math 132 for Chem 133 001  
Math 130 for Chem 133 006

**Class Times:**  
9:30-10:45 TR (133-001 Lecture)  
12:30-1:45 TR (133-006 Lecture)  
1:00-1:50 M (Recitation for 133-001 in Math 132)  
1:00-1:50 M (Recitation for 133-006 in Math 132)

**Instructor:** Darrell R. Fry, Ph.D.

**Office:** NM 120  
**Email:** frydr@sfasu.edu

**Office Hours:** MWF 9-10; W 8-9; TR 8-9:30; R 2-5. Please email me if you cannot meet at one of these times.  
**Phone:** (936) 468—1406

**Required Texts and Other Materials:**
- A scientific calculator (either graphing or non-graphing is fine; must be able to do scientific notation)  
- Notebook paper & pencils  
- A quiet place to study regularly

**Required Supplementary Readings:**
- Access code for Mastering Chemistry (an instruction sheet is included with the syllabus)

**Course Requirements:**
Your grade in this course will be determined by your performance on weekly quizzes, online homework, four major exams, and the comprehensive final exam (ACS Standardized exam). Dates & times for the exams are given below. More specific information about each type of activity is given in subsequent sections of this syllabus.

**Method of Evaluation:**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date/Time</th>
<th>Percentage of Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>Thursday 9/20 6-8 pm in Miller Science 137</td>
<td>15</td>
</tr>
<tr>
<td>Exam 2</td>
<td>Thursday 10/04 6-8 pm in Miller Science 137</td>
<td>15</td>
</tr>
<tr>
<td>Exam 3</td>
<td>Thursday 10/25 6-8 pm in Miller Science 137</td>
<td>15</td>
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<tr>
<td>Exam 4</td>
<td>Thursday 11/15 6-8 pm in Miller Science 137</td>
<td>15</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Section 001: Tuesday December 11th from 8-10am</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Section 006: Tuesday 11th from 10:30-12:30am</td>
<td></td>
</tr>
<tr>
<td>Weekly Quizzes</td>
<td>12 quizzes total; best 10 quiz grades counted.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Given during the recitation period.</td>
<td></td>
</tr>
<tr>
<td>Weekly Electronic Homework</td>
<td>~12 homework total; best 10 homework grades counted. Due each Sunday at noon.</td>
<td>5</td>
</tr>
</tbody>
</table>

**Total**  
100

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>90.0—100.0 %</td>
</tr>
<tr>
<td>B</td>
<td>80.0—89.9 %</td>
</tr>
<tr>
<td>C</td>
<td>70.0—79.9 %</td>
</tr>
<tr>
<td>D</td>
<td>60.0—69.9 %</td>
</tr>
<tr>
<td>F</td>
<td>0.0—59.9%</td>
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</tbody>
</table>
Weekly Quizzes:
- Quizzes may NOT be made up for any reason (this includes excused or unexcused absences). If you miss a quiz, it will count as one of the quiz grades that will be dropped at the end of the semester.
- The lowest two quiz grades will be dropped, so that only your best ten quiz grades count toward your semester average.
- Quizzes will cover material discussed during previous class periods, assigned readings, and assigned homework problems.
- You need to be on time for class; if you are late, you will not be allowed to take the quiz.
- Bring a scientific calculator to class EVERYDAY. You will NOT be allowed to share calculators nor will you be allowed to use cell phone calculators on quizzes.

Major Exams:
- Four major exams will be given on the dates listed in the table on the previous page.
- Exams will be ≥ seven pages long, and will include chemical nomenclature, definitions, short answer/discussion type questions, and computational problems.
- Each exam is comprehensive—that is concepts from exam 1 will appear on exams 2, 3 & 4.
- All exams (except the final exam) will be held on Thursday evenings from 6:00-8:00 pm. The location where the exam will be given will be announced in class.
- Please note: In order for you to have enough time to complete exams, all exams (except for the final) will be given at night. It is your responsibility to make any needed adjustments in your class/work/extracurricular schedule to accommodate for this. Please keep in mind that two hours are allotted for the exams for a reason. Plan to stay for the entire two-hour period.
- Material for exams will come from: assigned readings in the text, lecture notes, and homework problems in the text and online homework. Some problems on exams might be similar to assigned problems from the homework.
- You are required to show all work, use proper units, and use correct significant figures on all computational problems. You will be penalized if you fail to do this.
- You are required to write neatly and legibly on all parts of exams. This means that you also need to work problems in a neat, orderly, and logical fashion. If you do not do this, you will incur a substantial penalty.
- Exams must be taken in PENCIL. Exams taken in ink will receive a substantial penalty for not following directions. You are allowed to bring an eraser and/or a ruler to exams to help you write more neatly.
- Students arriving more than 15 minutes after an exam has begun will not be allowed to take the exam, unless an arrangement has been made with me prior to the exam.
- There will not be any in-class or out-of-class review sessions for the exams. If you have questions or need help preparing for exams, please come by my office and talk to me. I do not go over exams after they are returned to you. A key will be posted in the hallway outside my office. You can consult the posted exam key at your convenience when the building is open. If you have questions about how your exam was graded or about the solution for any of the problems, please come and talk to me.

Final Exam:
- Your final exam will be a comprehensive, nationally-standardized exam developed by the American Chemical Society (ACS)
- The exam consists of 70 multiple-choice questions, and is graded on a scantron. **YOU WILL NEED TO OBTAIN A SCANTRON FORM 882E FOR THE FINAL (bookstore).**
- A study guide, which contains material from previous ACS final exams is available for purchase, please see me if you are interested in purchasing one of these.
- **YOU MUST TAKE THE FINAL EXAM IN ORDER TO PASS THE CLASS. IF YOU DO NOT TAKE THE FINAL, YOU WILL BE ASSIGNED A GRADE OF F IN THE COURSE, REGARDLESS OF YOUR STANDING IN THE CLASS PRIOR TO THE FINAL EXAM.**

Mastering Chemistry:
- You are STRONGLY ENCOURAGED to work all assigned problems at least 2-3 times (or more, if needed)
- You are encouraged to ask questions about homework problems during office hours

Recitation Period:
- A recitation/study session for this class will be held on Mondays from 1:00-1:50 (section 001) and 2:00-2:50 (section 006) in Math 132.
- Expectations of student conduct & behavior during recitation are the same as for lecture. You are expected to be on time, prepared, and participate
Please take note of the following:

- This course and what you do in it is 100% your responsibility. It is your responsibility to come to class, read the assigned sections in the text before class, take good notes in class, do the homework, and get help if you are having trouble. I am more than willing to help you if you have trouble, but YOU need to take the initiative to seek help. If I pickup on someone who is struggling, I will ask them to come by my office. This visit is meant to help you.
- Grades will NOT be “curved” in this course. If you aspire to make a certain grade, please make sure that you have acquired the minimum number of points for that grade by the end of the semester.
- The laboratory and lecture sections of this course are entirely independent of one another. What you do in lab has no effect on your lecture grade; what you do in lecture has no effect on your lab grade. The lecture portion of this course counts for GPA purposes as 3 credit hours; the lab counts as 1 credit hour.
- You are advised to look over quizzes and exams promptly after they have been returned to you.
  - Keys for exams & quizzes will be posted on D2L. You may consult these at your convenience, and are encouraged to do so regularly.
  - If you have a question about how a quiz or an exam was graded, you have five (5) class days after the paper is returned to bring the paper to my office to discuss it. Grades will NOT be changed after five class days.
  - If you are absent from class when an assignment is returned, it is your responsibility to come to my office to pick up the paper; the 5-day policy begins when I hand out the paper in class, whether you were present that day or not.
  - Grades will be posted on D2L. This constitutes the official grade record for the course. I will use this data at the end of the semester to calculate the final grade. It is YOUR RESPONSIBILITY to check your grades on D2L. If the grade listed on your paper does not agree with the grade listed on D2L, you need to bring it to my attention as soon as possible.
  - I do not discuss grades during class or immediately after class. If you have any sort of grade question, please come by during office hours or make an appointment to meet with me to discuss the matter.
  - Keep all graded papers throughout the semester. Do not throw anything away until the semester is over. If there is a problem or question regarding the grade on a specific assignment (e.g. the grade listed for you on D2L is different from the grade listed on the paper), then bring your paper to my office so that I can change the grade.

Make-up Policy:

- Missed exams: If you miss an exam, it is your responsibility to contact me within 24 hours of the exam date. Make-up exams will only be allowed when an absence is documented and verified as being excused under the provisions of the SFA Policies and Procedures Manual. Make-up exams will be given during “dead week”. I reserve the right to give a comprehensive exam with essay questions for a make-up.
- Missed weekly quizzes: If you miss a quiz, regardless of the reason (i.e. excused or unexcused), it may not be made up. The missed quiz will count as one of the ones to be dropped (you get to drop the lowest two quiz grades). Early quizzes will not be given. Quizzes that are missed as a result of participating in university-sponsored activities (e.g. Geology field trips, athletic events, etc.) may not be made up. The missed quiz will be counted as one of the grades to be dropped.
- Missed Mastering Chemistry: If you miss a mastering chemistry assignment, regardless of the reason (i.e. excused or unexcused), it may not be made up. The missed mastering chemistry will count as one of the ones to be dropped (you get to drop the lowest two mastering chemistry grades). Mastering Chemistry that are missed as a result of participating in university-sponsored activities (e.g. Geology field trips, athletic events, etc.) may not be made up. The missed assignment will be counted as one of the grades to be dropped.

Attendance Policy:

- You are expected to be in class (both lecture & recitation) FOR EVERY CLASS MEETING.
- You are free to sit where you please.
- I will take attendance by passing around a sign-in sheet at the beginning of each class period. I monitor attendance for my own records and DO NOT use it directly in the determination of your grade. You will not be directly rewarded for coming to class; nor will you be directly penalized for missing a class.
- Absence will SEVERELY impede your chances of completing the course successfully.
- I have learned this lesson the hard way as a student, and I have seen it in my experience as a professor. Students who earn a grade of A in my courses typically have less than 3 absences during a semester. Students who earn a grade of F in my courses typically have 5 absences or more during a semester.
- Show that you are an adult by taking responsibility for your attendance.
- If you should miss a day, regardless of the reason, you are expected to consult with your classmates and get the notes and get caught up with the material.
- You DO NOT need to bring me a doctor’s note if you are absent.
- If you should need to be absent for an extended period, or if there are extenuating circumstances regarding attendance, please inform me as soon as possible.
In order to encourage attendance and reward attendance, I reserve the right to give periodic unannounced bonus quizzes at ANY TIME during class. These quizzes can be given at the beginning, in the middle of, or at the end of the class period. If you are not present when a quiz is given (whether because of absence or tardiness), you will not receive the bonus points. Any bonus points earned will be applied to your next exam grade.

Tardiness:
- Chronic tardiness is unacceptable.
- If you happen to arrive after I have begun class, you should enter the class quietly and discretely, without disrupting the class.
- If you are late when a quiz is being given, you will not be allowed to take the quiz.
- Students arriving more than 15 minutes late for the evening exams will not be allowed to take the exams.
- I will close the door to the classroom approximately 2-3 minutes after class has begun. If you are late, please come in quietly without disturbing me or your class mates.
- If you need to leave class early for any reason, you should do so quietly and discretely, without causing a disruption to me or to the other students in the class.

Academic Integrity Policy:
All students are urged to acquaint themselves with the University's codes, policies, and procedures involving academic misconduct, grievances, sexual and ethnic harassment, and discrimination based on disability. Copies of the SFA Policies and Procedures Manual can be obtained in print or online from the Office of Academic Affairs (http://www.sfasu.edu/upp/pap/academic_affairs.html).

It is 100% YOUR responsibility to abstain from engaging (or even appearing to be engaging) in academic misconduct. If you see others engaged in academic misconduct, please report it to me as soon as possible. Students engaging in any type of academic misconduct (including, but not limited to: cheating, plagiarism, or any other action that can improperly affect my evaluation of your performance) will be subject to sanctions in accordance with SFA Academic Integrity Policies. Please note: The usage of electronic devices (including, but not limited to: cell phones, PDAs, mp3 players, etc.) while a quiz or exam is being given will be treated as academic misconduct. DO NOT HAVE THESE DEVICES OUT DURING A QUIZ OR AN EXAM! I will recommend a grade of "F" for the course and expulsion from the University for any such violations. You are allowed to use graphing calculators on quizzes and exams; however, I reserve the right to erase the memory of such calculators prior to any quiz or exam.

Academic Disabilities Policy:
Stephen F. Austin State University is committed to providing reasonable accommodations for all students with disabilities. Students with disabilities who require accommodations in this course are requested to speak with me as early in the semester as possible. Students with disabilities must be registered with the Office of Disability Services prior to receiving accommodations in this course. The Office of Disability Services is located in the Human Services Bldg., Room 325, (936) 468-3004 or (936) 468-1004 (TDD).

Classroom Behavior Policy:
- You are adults. I will treat you like adults, and will expect you to behave in a mature and responsible manner while in class.
- Students are expected to conduct themselves as responsible scholars while in class.
- I encourage you to ask questions if you do not understand something, however, chatting with a classmate during lecture is not allowed.
- **TURN OFF YOUR CELL PHONES WHEN YOU COME TO CLASS! I WILL NOT TOLERATE RINGING CELL PHONES OR TEXT MESSAGING IN CLASS.** If I see you using a cell phone in class, I will kick you out of class.
- You are also not allowed to read other materials (e.g. newspapers) or study for another course while in class. If I see you doing this, I will kick you out of class.
- If you bring anything to class with you (food/drink/etc.), please throw it away or take it with you when you leave.
- You are **NOT** allowed to use tobacco products of any kind in class (per SFA official policy).
- You are not allowed to sleep in class. If I catch you sleeping, I will kick you out of class. If you have trouble staying awake in class, you should drink a beverage containing high concentrations of 1,3,7-trimethylxanthine before coming to class.

Email:
- Email has been designated an official method of communication by the University.
- All students have an "official" SFA email address; classwide email announcements will be sent to this address.
- **It is YOUR RESPONSIBILITY to check your SFA email account on a regular basis.**
If you have your SFA email forwarded to another account (e.g. Yahoo, Hotmail, etc.) it is your responsibility to ensure that class emails are not treated as "spam" and automatically routed into your "junkmail" folder. "I didn’t get the email about that" is NOT a valid excuse!

You are welcome to email me with questions. Please DO NOT email me from D2L & expect a prompt response from me. If you want me to respond to your email, the best thing to do is to email me directly at frydr@sfasu.edu.

IF YOU EMAIL ME, PLEASE PUT “CHE 133” IN THE SUBJECT LINE. ALSO INCLUDE YOUR NAME in the body of the email (especially if your name is different from your email address)

Desire 2 Learn (D2L):
- All SFA students are able to log onto D2L, which will be used to manage the course
- You can access Desire 2 Learn thru MySFA (http://mysfa.sfasu.edu)
- You will need your official SFA username and PIN to be able to log onto D2L
- D2L will be used to post course announcements, handouts, info for quizzes & exams, and (most importantly for you) your grades
- You can download Acrobat Reader free of charge at http://www.adobe.com
- If you have MySFA or Desire 2 Learn technical questions, please contact IT at 468—HELP

I reserve the right to change any items contained in this syllabus. This includes, but is not limited to: course content, scheduled dates, grade cutoffs, and fraction(s) of final grade assigned to individual components of the course. If I need to make such changes, I will inform you of the changes in writing. This syllabus in no way constitutes a legally-binding contract on my part.

“I’m having trouble in class. Where can I get help?”
- Paying a private tutor is many times NOT what students need if they are having trouble in the class. There are a number of resources that you have already paid for available to you on campus. I strongly recommend that you take advantage of these resources before paying additional money to a private tutor. Some of these resources are:
  - Your instructor:
    - Come see me during office hours or email me to make an appointment. I should be your first line of defense. I know what material is being taught, what material will be on exams, and what material you need to know (after all, I am the one who writes the quizzes & exams). You’ve already paid for me when you paid your course tuition. Don’t hesitate to come for help. I want to see you improve and do well. Don’t think that your question is unimportant or that you are wasting my time. I have office hours to help you. That’s why they are there. Even if you are behind, come get help.
  - The AARC
    - You can get one-on-one tutoring at the AARC. Contact the AARC for more specific information on how to get a one-on-one tutor. You need to do this quickly, as only a limited number of slots are available and they fill up rapidly.
    - There is also a Chemistry walk-in table at the AARC. Check with the AARC for more information.
    - We will also have a Supplemental Instruction (SI) group for this class. Our SI leader is Shayla Robinson, who was an outstanding student in my CHE 133 class last year. Meeting times for the SI group will be announced in class. The purpose of the SI group is to supplement and complement what is done in class. SI is not a replacement for the lecture, but rather is intended to augment and reinforce what is covered in the lecture.
# | Date | Day | Possible Chapters
--- | --- | --- | ---
1 | 8/27 | T | Introduction and course policies; Chapter 1
2 | 8/30 | R | Chapter 1; Chapter 2
3 | 9/4 | T | Chapter 2 and Ionic Nomenclature
4 | 9/6 | R | Chapter 3
5 | 9/11 | T | Chapter 3
6 | 9/13 | R | Chapter 3
7 | 9/18 | T | Covalent Nomenclature
8 | 9/20 | R | Chapter 4
 | 9 | 9/25 | T | Chapter 4
10 | 9/27 | R | Chapter 5
11 | 10/2 | T | Chapter 5
12 | 10/4 | R | Chapter 5
 | 13 | 10/9 | T | Chapter 10
14 | 10/11 | R | Chapter 10
15 | 10/16 | T | Chapter 6
16 | 10/18 | R | Chapter 6
17 | 10/23 | T | Chapter 7
18 | 10/25 | R | Chapter 8
 | 19 | 10/30 | T | Chapter 8
20 | 11/1 | R | Chapter 8
21 | 11/6 | T | Chapter 9
22 | 11/8 | R | Chapter 9
23 | 11/13 | T | Chapter 9
24 | 11/15 | R | Exam 4
 | 25 | 11/20 | T | Chapter 11
26 | 11/27 | T | Chapter 12
27 | 11/29 | R | Chapter 13
28 | 12/4 | T |
29 | 12/6 | R | Review for Final