

## Chemistry 1211: *Principles of Chemistry I* Syllabus Fall 2011

---

**Instructor:** Dr. John Farrar, [jfarrar@abac.edu](mailto:jfarrar@abac.edu) **CRN:** 20459  
Gray 218 **Home page:** [www.abac.edu/jfarrar](http://www.abac.edu/jfarrar)  
391-5114

**Materials:** *Chemistry: a molecular approach*, 2<sup>nd</sup> edition by Nivaldo Tro  
*Mastering Chemistry* online homework system  
i>clicker remote  
(optional) *Student Solutions Manual* by Tro, Kramer, and Shaginaw  
scientific calculator

### Methodology:

The primary methods used in *Chemistry 1211* include lecture, demonstrations, discussion, problem solving, and laboratory. Student participation in class and lab is expected. Student questions are encouraged to enhance the learning environment. Lectures will identify, supplement, and clarify key concepts and principles contained in the textbook.

### Grades:

Grades will be assigned on a weighted scale. Exams make up 70%, quizzes and homework 15%, in-class participation 5%, and the final exam will be 10% of the total. The following minimum guidelines will be used for assigning letter grades for the course:

90%   **A**      80%   **B**      70%   **C**      60%   **D**      < 60%   **F**

Example: An exam average of 85%, a quiz/homework score of 82%, a participation score of 80%, and a final exam of 80% would give a grade of:  $(85 \times 0.70) + (82 \times 0.15) + (80 \times 0.05) + (80 \times 0.10) = 84$ , a B

**Late assignments will receive a 5% deduction per day late. Assignments over a week late will receive a score of 0.**

### Exams:

There are four scheduled exams; no exam will be comprehensive except for the Final Exam, which will be comprehensive. Exams may include any combination of multiple choice, true/false, essays, computation, matching, analytical, or application questions. Drawings, graphs, and diagrams may be required. **Exam dates will normally be announced at least a week in advance.** You are responsible for all material found in the text for the chapters covered except that which is expressly excluded by the instructor. If you are unsure, assume you are responsible for it. **Prepare well ahead of time for exams; do not expect tutoring within 48 hours of the exams.**

Sample copies of exams from previous semester will be made available on the web page. You are encouraged to use these exams as a practice for the real, graded in-class exams. **Use these exams with caution.** They can be a help or a hindrance.

**If you fail to take the Final Exam, you will receive a grade of F for the course. The Final Exam is scheduled for Monday December 5 from 12:30-2:30. It will be multiple choice and comprehensive.**

## Paper:

Explore a question of chemistry that interests you. The instructor must approve titles (in the form of a question and must include a brief description) by **September 2**. Typed outlines are due **September 30**. **Two copies** of the rough draft with references will be due **October 28**. Peer reviews of the rough draft will be due **November 7**. **The final draft of the paper will be due November 18**. You are required to consult with the Writing Center in the AAC (Carlton Center first floor) during the preparation of your paper, preferably after the rough draft has been prepared. You will need to make an appointment with the Writing Center. **You must provide documentation of your consultation.** The paper will consist of no less than five or more than seven double-spaced, typed pages (normal font size, margins, and other spacing is assumed). Grades will be assigned on the appropriateness of the paper topic, analysis of the topic, the accuracy of the chemistry involved, references, relevancy, and grammar in that order. Internet references are allowed but discouraged. At least half of your references should be from non-internet sources.

References should be cited in the text (as superscript numbers) and should be placed in a "References" section with formatting using **ACS style** as follows: Citation number. Authors (last name, first initials), "title of article," *journal name*, **publication year**, *volume (issue)*, page numbers. Use appropriate formatting for other types of references including those from the internet. A real example for a journal article follows.

1. Farrar, J.M., Patel, M.K., Kaszynski, P. "A New Heterocyclic Ring System: Synthesis and Molecular Structure of 3,6-Diphenyl-4*H*-1,2,4,5-thiatriazine and 3,6-Diphenyl-1,2,4,5-thiatriazinyl Radical," *J. Org. Chem.* **2000**, *65*, 931-940.

**You are required to submit your final paper to *SafeAssign*, a plagiarism prevention tool.** It is not primarily designed to catch plagiarism but to help you identify instances where citation is required.

**The paper is equivalent to an exam with scores as follows: 5% for topic, 5% outline, 5% rough draft, 5% peer review, 5% Writing Center, and 75% final draft. In addition, a score of 0 will be assigned if you fail to submit your paper to *SafeAssign*.**

## Homework:

Problem sets are an excellent way to master the material, and exams will generally be no more difficult than the problem sets. Using *Mastering Chemistry* (section ID MCFARRAR88217), homework problem sets will be assigned as an aid to learning the material. **Due dates for the homework problems will be announced in class.**

Homework generally should be used as a way to master the material. You must practice problem solving by doing it—working homework problems. Work problems until you are comfortable answering the problems with little thought (aka second nature) and without use of the textbook.

## Studying:

Schedule **at least** 6 hours per week outside of class time for studying. Homework should be considered only a **part** of your study time. Come prepared for class—read the textbook, attempt the text problems, note questions to ask in class, etc. If you are to succeed, you must be prepared for class.

If you are weak in algebra, you will need to review. The AAC has free math and science tutoring. Please see the instructor and/or a tutor if you are having problems. Students are encouraged to participate in study groups, which correlate well with success in chemistry and college.

I will do everything that I can to make the topics interesting and relevant, to explain the concepts, to provide motivation and discipline for learning, and to answer questions that arise.

However, **you are ultimately responsible for your success in this class**. You will not learn unless you do your part. **Make your classes a priority**—they are easily pushed to the back burner which only sets you up for failure. Do not wait until the end of the semester to ask for help. By then it is too late and we probably won't be able to salvage your grade at that point. Do not count on me to pull you aside to ask about problems.

### Lecture Schedule:

Lecture notes will be posted on WebCT. The lecture will cover the following chapters in this order:

**Matter, Measurement, and Problem Solving, Chapter 1**

**Atoms and Elements, Chapter 2**

**Molecules, Compounds, and Chemical Equations, Chapter 3**

**Chemical Quantities and Aqueous Reactions, Chapter 4**

**Gases, Chapter 5**

**The Quantum-Mechanical Model of the Atom, Chapter 7**

**Periodic Properties of the Elements, Chapter 8**

**Chemical Bonding I: Lewis Theory, Chapter 9**

**Chemical Bonding II: Molecular Shapes, Valence Bond Theory, and Molecular Orbital Theory, Chapter 10**

### Classroom Policies:

No caps or hats may be worn during exams or quizzes. A scientific calculator must be used during exams and quizzes; PDAs, cell phones, and other devices may not be used. Be sure you know how to use your calculator before the exam or quiz.

Attendance should be considered mandatory. Attendance will be taken using the i>clicker system at the beginning of class. If you are not present when attendance is taken, you will be marked as absent. You receive one point towards your in-class participation score for every day present. If you disrupt the classroom, you will be removed and marked as absent. Use of a cell phone in class (including texting) is considered disruptive behavior. Cell phones must be turned **off (not silenced)** before class starts. Persistent disruptions will result in more severe penalties up to dismissal from the class and failure of the course.

**You are allowed one make-up exam during the semester.** If you must miss an exam, you should let me know ASAP, preferably before the exam date, to schedule a make-up. Make-up exams will not be allowed after the graded exam is returned to the class. **WARNING: Make-up exams are much more difficult than in-class exams.**

Do not request extra credit. Limited opportunities for extra credit may be offered during the semester. To be fair to everyone, I do not allow individual extra credit, and I do not give points without work.

### Withdrawal Deadline:

The last day to withdraw from this class without academic penalty is October 5, 2011. Before that deadline, a student who withdraws from the class will receive a grade of "W" that does not affect GPA. After October 5, withdrawing results in a "WF" grade that is used for GPA calculation. Before you withdraw, please discuss the change with me and with Financial Aid.

This is only a partial syllabus. The general ABAC syllabus for this course can be found at: <http://www.abac.edu/syllabi/CHEM1211>. Information about the academic dishonesty policy, attendance policy, ADA statement, and course learning objectives can be found on the general syllabus.