

CHEMISTRY 36: GENERAL CHEMISTRY FOR MAJORS

SECTION 10141, MWF 9:35 – 10:25 a.m., ROWELL 110

UVM

SPRING SEMESTER, 2012

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Office Hours: 11:00 a.m. – 12:30 p.m. Monday and Wednesday or by appointment. These hours are subject to change with notice.

Learning Goals

- 1) Develop a general knowledge of chemistry and be able to apply chemical and physical principles to solve a wide-range of problems in chemistry.
- 2) Develop proficiency in chemical laboratory techniques and apply these to realistic and current problems in research.

Books

Required Textbook: Atkins and Jones, *Chemical Principles: The Quest for Insight*, 5th edition, W.H. Freeman and Co., ISBN-10: 1-4292-1955-6. Lecture will closely follow this textbook. Homework problems will be assigned from this textbook and will be similar to those on tests.

Recommended Supplement: Study Guide/Solution Manual for Chemical Principles, 5th edition, ISBN: 1429231351. This study guide is available from Amazon and Barnes and Noble. This study guide is a rich resource for worked out problems, quizzes, etc.

Quizzes, Tests, and Final Exam

Quizzes: It is important to keep up with the material as it is introduced in class. I will help you stay motivated in studying by giving a **quiz every Friday during lecture**, unless otherwise announced. The quiz will include qualitative and quantitative questions on the material covered that week. You should **bring a calculator**. These quizzes will be given when the class begins and take 10 to 15 minutes at most, so it is important to **show up on time**.

Tests: There will be **three tests** given during the semester. They will be given during your regularly scheduled lab times (see below). This method should minimize scheduling conflicts and gives you plenty of time to complete the exam. (I am designing these exams for 1 hr, but you will be given more time if needed.) If you miss a test or exam, an official written documentation of sickness or family crisis is required. **Unexcused absences will result in a grade of zero for that exam.** If you do have a scheduling conflict with any of these tests, please **notify me at least one class meeting in advance**. **All tests will require a calculator that has log functions (base ten and natural log) and their inverse functions.** You

cannot access the internet, text message, or use the phone during tests or quizzes. You cannot use stored equations from your calculator or any libraries of information stored in its memory, etc. **I will provide a sheet with important equations.** You **should be able to algebraically manipulate these equations** to get them into a form to solve a particular problem. **Certain very basic equations will not be given**, such as the definition of the equilibrium constant (Chapter 10); and you should have these committed to memory because they are used many times in the homework. I will point these equations out in lecture. A periodic table, important constants (e.g. gas constant, Avogadro's number) will be provided. All tests will be worth about the same number of points ~100.

Test Dates: The following table gives *tentative* test dates. If a test date is changed it will be announced in class and posted on Blackboard.

Test 1	Feb. 21-23
Test 2	March 20-22
Test 3	April 3-5
Final	May 8

Test Reviews: I will provide a brief review for each test in the last lecture before the test. I will also work out or set up solutions to problems (from the test and other sources) in almost every lecture.

American Chemical Society (ACS) standardized exam: This exam will be given in April and most likely will be scheduled at night (TBA) or during lab times. If you do well on this test I will replace your lowest test score with your percentile score on this exam. If you do poorly on the ACS exam it will not count. **It only helps you to take this exam!**

Final Exam: There will be a **comprehensive final** given on Tuesday, May 8th from 1:30-4:15 pm. It will be about twice as long as a test. The final will be taken in Rowell 110.

LABORATORY

There is **no lab manual** for this course. Laboratory information will be posted at Blackboard under the lab sections. **Your TA is responsible for assigning points to the lab, which will account for approximately 25% of your total points.** (I will adjust points as needed.) Below are some considerations for lab; your TA will provide more a more detailed description during your first lab meeting. All labs are in **Cook A141** and the first labs run from Jan. 24-26.

Lab Notebook: A **bound composition notebook** is required, which are available at the UVM bookstore. All **data must be recorded in blue or black ink.**

Safety Goggles/Glasses: Approved safety glasses or goggles must be worn by everyone once an experiment has started anywhere in the lab room. **Students not wearing who do not follow this rule will be given a zero for that experiment.** Contact lenses are not allowed because some of the solvents we will be using may melt them onto your eyes. Prescription glasses may be worn under safety goggles only.

Breakage Card: Prior to the first lab, you must purchase a breakage card from the Chemistry stockroom, if you have not purchased one last semester. You need to have this card to do many of the experiments.

Locks: Record the combination of your lock because the stockroom charges \$1.00 to look up this number.

Attendance: Your TA will take attendance in lab and report this to me. **If you miss more than two labs you receive an F for the entire course** and incompletes can only be granted by your academic dean. If you think you are going to miss lab let your TA (or me) know; we may be able to fit you into another section.

Summary of Points: The table below gives an **approximate** breakdown of points and percentages for different components of the course. If needed, I will readjust the points assigned by your TA in lab to fit into this scheme.

Quizzes	100 points	12.5%
Test 1	100 points	12.5%
Test 2	100 points	12.5%
Test 3	100 points	12.5%
Final Exam	200 points	25.0%
Laboratory	200 points	25.0%
Total	800 points	100%