CHEM 1360-002 SYLLABUS - SPRING 2012

LECTURE: MWF 10:00-10:50 - Chem bldg. 106
PROFESSOR: James L. Marshall, Chemistry Building 172.

TEXT: Hill, "Chemistry for Changing Times" is suggested but optional. Any textbook with the same topics will serve as well. To help the student, supplementary class notes will be available on the website (see below).

COMMUNICATION: The website for Dr. J. Marshall, http://www.chem.unt.edu/~jimm/ holds current announcements, test bank questions for the course (see below), and Power Point slides presented during lecture. It is the responsibility of the student to check this website before each class for announcements.

TESTS: The schedule will include three one-hour tests, dates to be decided during the first week. All questions will be patterned on the test bank questions, available on the website (see above). The date of the final exam is Mon May 7, 8:00am. Operation of cell phones or other wireless devices during tests is forbidden. Tests may be videotaped.

THE FINAL GRADE will be determined 2/3 from the lecture final grade and 1/3 from the lab grade. The syllabus for the laboratory is in a separate document. The student must be sure he/she has enrolled in a lab section.

THE LECTURE FINAL GRADE will be determined from averaging six grades -- three tests and three essays. The three test grades are taken from the best three tests including the final (for a total of four tests). Each person gets one dropped test (of the four tests). [A test cannot substitute for an essay]. During the course one will know precisely what grade one has, because the following scale will be closely followed: A = 90-100; B = 80-89; C = 65-79; D = 55-64; F = <55. Each test will be comprised of multiple-choice questions patterned after the test bank questions. At the time of each test one essay question is also assigned. Each essay question will not be written during the hour exam, but will be prepared separately and turned in with the hour exam. Late essays will have one point deducted (on a 100-point scale) for every late day (7-day week).

The three essay questions, in respective order, will be:

   ESSAY 1. "Give a history of the Periodic Table - including the contributions of Dalton (concept of atoms), Lavoisier (concept of elements), Berzelius (development of atomic weights), and Mendeleev (predictive power of the Periodic Table), and Moseley (concept of atomic numbers)." Length 1000 words.

   ESSAY 2. Choose one of the following two: "Describe the Scientific Method - using explanations of scientific hypotheses, scientific laws, scientific theories, and scientific models." OR "Discuss commonly occurring acids and bases in foods and consumer products - their benefits and drawbacks." Length 1000 words. OR Complete the test questions which will be handed out before the "Einstein's Big Idea" movie. COMPLETE and PUNCTUAL attendance that week is MANDATORY (i.e., all three days) for full credit.

   ESSAY 3. Choose one of the following two: "Discuss the discovery of radium, including the biography of the Curies, their education, and the scientific method utilized in their research." Length 1000 words. OR Complete the test questions which will be handed out before the "Marie Curie" movie. COMPLETE and PUNCTUAL attendance that week is MANDATORY (i.e., all three days) for full credit.

   DO NOT E-MAIL ESSAYS. DO NOT TURN ESSAYS INTO CHEMISTRY OFFICE. DO NOT PUT ESSAYS INTO FACULTY BOXES. TURN IN ESSAYS DIRECTLY TO DR. MARSHALL DURING CLASS. STAPLE THE ESSAYS BEFORE TURNING IN.
ABSENCES FROM HOUR TESTS: A student missing a test will be given a zero, except for the following four reasons, in which case the student may be given the chance for a make-up test. Make-up tests differ from the usual tests in that they will not be multiple-choice, but will be fill-in. Acceptable reasons for missing a test are:

- illness (requires documentation -- a physician's note including contact information)
- death/serious illness of a family member (requires documentation -- an obituary with contact information)
- an official University activity (requires documentation -- advanced approval from university with contact information)
- University closing (general official announcement from the administration)

("Personal reasons" or "over-sleeping" do not constitute bona fide emergencies).

CHEATING: Obtaining information inappropriately when taking a test, or presenting false information to the instructor regarding grades, tests, written assignments, or absences, is grounds for dismissal from the course with an "F" and referral to the Dean. At minimum, cheating on a test automatically results in a zero for that test. All tests, after they are graded, are xeroxed as a permanent record for future referral.

DISRUPTION OF CLASSES: Disruption of classes is forbidden by the Student Code and will result in dismissal of the student from the classroom with an automatic lowering of the final grade. Disruption of classes includes noisy or other offensive behavior including operation of cell phones or electronic devices or earphones. Lectures begin punctually, and acceptable classroom behavior is expected to begin punctually as well. Repeated late arrival of a student is considered to be unacceptable behavior.

STUDENT DISABILITIES: Students with disabilities may check with the instructor for whatever arrangements to be made for accommodation.

MISSUED CLASSES: It is the responsibility of a student who misses a class to get lecture notes, assignments, and announcements from other students before the next class. E-mail communication has been found to be an inadequate means of effectual student-instructor communication; hence, no student e-mails will be answered, except for bona fide emergencies. Student questions should be brought to class; sufficient time is always planned after class to handle these, either in the class or privately. It has long been recognized as a demonstrable fact in the University that the regularly scheduled class time is the most satisfactory way to find the instructor for questions. Absolutely no grades will be discussed by email; such discussion is too involved for such an ineffectual dialogue medium.

BREAKDOWN OF TEXTBOOK MATERIAL FOR TESTS, 12th Edition

FIRST HOUR TEST:
Chapter 1 of textbook "Chemistry"
Chapter 2 of textbook, "Atoms"
Chapter 3 of textbook, "Atomic Structure"
Chapter 4 of textbook, "Chemical Bonds"
Chapter 5 of textbook, "Chemical Accounting"
Chapter 11 of textbook, "Nuclear Chemistry" [note: this was in chapter 4 of the 11th edition]
SECOND HOUR TEST
Chapter 6 of textbook, "Gases, Liquids, Solids"
Chapter 7 of textbook, "Acids and Bases"

THIRD HOUR TEST
Chapter 8 of textbook, "Oxidation and Reduction"
Chapter 9 of textbook, "Organic chemistry"

ESSAY QUESTIONS (BACKGROUND AND REASONS FOR REQUIREMENT):
Reasons: The State Legislature has mandated that certain "university core courses" of the university must be involved in university-wide self-assessment. For the natural sciences (of which chemistry is one), at least three of the following five exemplary educational objectives must be met: (1) To understand and apply method and appropriate technology to the study of natural sciences; (2) 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; (3) To identify and recognize the differences among competing scientific theories; (4) To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies; (5) To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.
Implementation: In this course objectives (1), (2), (3), and (5) will be met. It has been suggested by the administration that essays can be used for implementation.
Details:
Objective (3) will be implemented by the student writing an essay on "The History of the Periodic Table." In this essay the student will outline how the Periodic Table weaves together so many aspects of chemistry: chemical behavior, atomic structure, and history of chemistry itself. The student will include the contributions of Dalton (concept of atoms), Lavoisier (concept of elements), Berzelius (development of atomic weights), and Mendeleev (predictive power of the Periodic Table), and Moseley (concept of atomic numbers).
Objective (2) will be implemented by the student writing an essay on "The Scientific Method." In this essay, use explanations of scientific hypotheses, scientific laws, scientific theories, and scientific models. It is suggested that examples be used in the development of chemical history, such as the atomic theory, the kinetic molecular theory, etc.
Objective (5) will be implemented by the student writing an essay on "Acids and Bases in Foods in Consumer Products." The student will include the benefits and liabilities of various products, and how these products impact the consumer and his world, including aspects of how the products improve the world and how pollution is created and can be minimized. It is suggested that the student include current events to exemplify points, by attaching newspaper and/or magazine articles.
Objective (1) will be implemented by the student writing an essay on "The Discovery of Radium," showing how the scientific method was used to realize this very important achievement.
SPRING 2012, CHEM 1360 LABORATORY.

This is a necessary component to the CHEM 1360 lecture, and must be completed for a full grade in CHEM 1360.


You are responsible for reading and knowing the safety rules. A signed sheet to this effect will be kept by your TA. This signed sheet is p xiii of the lab manual. Punctual attendance for each laboratory session is necessary, as required by State mandates, to ensure all students understand safety rules. The T.A. will deduct points from one's final score for tardiness. Arrival more than 15 minutes late for a laboratory session constitutes an absence and will be so recorded.

YOU MUST WEAR SAFETY GOGGLES AT ALL TIMES AND PROPER CLOTHING MUST BE WORN. SEE pp viii-x of lab manual for "Common Safety Regulations." By State Law items 1, 2 must be rigorously enforced for admission to the lab. These state: (1) Eye protection is required at all times. . . . [which requires] safety goggles; (2) Long hair and loose clothing must be contained. . . . Closed-toe shoes that cover the entire foot, and clothing that covers the body [are required].

Procedures: It is essential that you come prepared. You must sign in, do the experiment, clean up and sign out.

Grading: There are 11 laboratory periods -- the first week of check-in and safety lectures, and then 10 experiments. The final grade will be taken from the best 9 experiments (i.e., you get one free dropped experiment). You must be punctual or you will delay your group and the class! Points will be taken off your daily score for tardiness. Excused absences are given only for illness (requires a physician's note), death/serious illness of a family member (requires documentation), and official University activity (requires advance planning and documentation), each delivered to your T.A., and subject to confirmation by the Department.

Make ups: Chemical laboratories are NOT equipped for make ups! This is because safety regulations allow the laboratory to be prepared for only one experiment at a time, a different experiment each week. Because of safety regulations, a student cannot take the lab at a time different from the registered time. If you need to miss a class, then save your drop!

Week of: Lab:
Jan 23    Check-in, safety lectures (short introductory lab — additional points)
Jan 30    2. Density Layers
Feb 6     5. Atoms and Light
Feb 13    14. Solubility
Feb 20    18. Nature's Indicators
Feb 27    20. Buffers
Mar 5     25. Synthesis of Esters
Mar 12    53. Saponification
[Mar 19]  [*Spring break*]
Mar 26    55. Personal Products
Apr 2     50. Fats and Iodine Numbers
Apr 9     51. Carbohydrates
Excused Absences are given only for the following reasons:

- illness (requires documentation -- a physician's note including contact information)
- death/serious illness of a family member (requires documentation -- an obituary with contact information)
- an official University activity (requires documentation -- advanced approval from university with contact information)
- University closing (general official announcement from the administration)

Present all documentation to your instructor (which will then be verified). Submission of falsified documentation will result in an "F" for the laboratory portion of the course.

For all other absences: save your dropped day!

Note: The first week of Jan.24 -- the introductory/safety/check-in -- is required! If one misses this date, then this constitutes a zero (or the dropped class) and the total of 10 experiments must be done for full credit for the laboratory contribution to the CHEM 1360 grade. No excuses can be given (other than the four listed above; these require complete documentation which will be checked).

If a student attends all 10 experiments, then his/her grade is increased accordingly. This option may be attractive to those who miss the first introductory/safety/check-in date.

CHEATING: Presenting false information to the instructor regarding absences, is grounds for dismissal from the course with an "F" and referral to the Dean. At minimum, false preparation of an experiment report (such as duplication of another's report) automatically results in a zero for that report.

Notes:
(1) Present all communication with your T.A. (first class day: make sure you record his/her name!).
(2) ODA Compliance: We are happy to cooperate with the Office of Disability Accommodation to make reasonable accommodations for qualified students with disabilities. If applicable, please present your request, with written verification from the ODA.