Syllabus - CHEM 1010
General Chemistry I
Fall Semester - 2010
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COURSE TITLE: Introduction to Chemistry I (General, Organic and Biochemistry)

TEXTS:
General, Organic and Biochemical Chemistry, Karen C. Timberlake, 3rd ed., Prentice Hall, Upper Saddle River, ISBN-13: 978-0-13-605454-2 (ISBN-10: 0-13-605454-4) Laboratory materials supplied by chemistry department

OTHER: A calculator capable of scientific notation, logarithms and exponential functions. The student is responsible for knowing how the calculator operates before beginning the course. Instructors are not required to teach the operation of calculators.

CREDIT: 4 semester hours

PREREQUISITE: Two years of high school algebra, one year of high school chemistry or CHEM 1000.

EMPHASIS: Fundamental concepts of atoms, molecules, periodic law, chemical reactions, unit conversions, gas laws, solution concentrations and properties, and pH.

GENERAL OBJECTIVES:

• understand the fundamental concepts of atomic structure.
• understand the fundamental concepts of molecular structure and bonding.
• acquire knowledge of periodic properties of elements.
• be able to predict properties of elements from the periodic table.
• acquire a skill in mathematical calculations for chemical reactions.
• acquire a skill in mathematical calculations for unit conversions.
• acquire a skill in mathematical calculations for applications to solution chemistry.
• understand the fundamentals of Kinetic Molecular Theory.
• acquire a skill in mathematical calculations for applications to the gaseous state.

In the process of learning reaching these objective the student will also demonstrate the standards prescribed by the Tennessee Board of Regents.

• Conduct and experiment, collect and analyze data, and interpret results in a laboratory setting Analyze, evaluate, and test a scientific hypothesis
• Use basic scientific language and processes, and be able to distinguish between scientific and non-scientific explanations

• Identify unifying principles and repeatable patterns in nature, the values of natural diversity, and apply them to problems or issues of a scientific nature
• Analyze and discuss the impact of scientific discovery on human thought and behavior

See: http://www.roanestate.edu/faculty/chemistry/competencies/chem1010comp.pdf for details of the CHEM 1010 learning objectives.

COURSE REQUIREMENTS:

Read all the assigned topics listed in the outline. Use the glossary of the textbook or refer to the list of competencies to determine the locations of the topics under discussion. Turn in all assigned and requested problem sets. Complete all tests and examinations.

Attend all lectures and participate in group quizzes. In order to get credit for the group tests, one must be counted as present for the corresponding lecture session. Attendance will be taken at the beginning of the class period and anyone later than 5 minutes will be considered as absent. (NOTE: For certain government programs, attendance is mandatory and the attendance records must be reported to the administration.) Group quizzes may not be made up after the date of the individual test (see below) over the respective subject matters.

Perform all assigned laboratory exercises and turn in completed laboratory reports and tests as assigned. Laboratory reports and test must be handed in at the end of the assigned laboratory period except as instructed by the instructor. No credit is given for late laboratories. One must **both attend** the laboratory session and **hand in** the written material to obtain a grade for a laboratory session.

LABORATORY:

Students are responsible for their own laboratory exercise. There are two types of laboratories. These are referred to as "exercises" and "laboratories". The description and rules for each are as follows:

Exercises: Exercises consist of performing some written exercises, typically calculations, in the laboratory manual. After the student completes the exercises in the manual, a quiz is presented to the student for completion. During the completion of the exercises in the manual, students may and are encouraged to collaborate. For the quiz, however, the student **must complete this alone** with the aid of any written material deemed useful.

Laboratories: Laboratories are hands-on experimentation in the laboratory. Each student must perform the laboratory alone. All reports, etc., must be individual work and **no group effort or copying of any kind is allowed**. If an unknown is involved, each student will have a unique unknown with a unique unknown number. All laboratory reports are individual efforts and duplicates or copies will not be given credit, nor may the student re-do a duplicate or copy. Consultation between students during the laboratory is allowed and encouraged, so long as **neither the data nor the written reports** are exchanged or copied.

Plagiarism is a **form of cheating** and will be dealt with accordingly. See the cheating policy below. The definition according to The American Heritage Dictionary: Plagiarism:

1. To use and pass off (the ideas or writings of another) as one's own.
2. To appropriate for use as one's own passages or ideas from (another).

GRADING:

The following is the grading technique used:

Lecture tests	40 %
Final Exam*	30 %
Laboratory	30 %
TOTAL	100 %

*lecture test only if excused from final

total percentage	Grade
percentage above 90	A
percentage 80 - 90	B
percentage 70 - 80	C
percentage 60 - 70	D
percentage below 60	F

Group Quizzes:

During the regular lecture periods there may be one or several group quizzes. These quizzes will be extra credit for the next individual test that follows. If one has a perfect score for all the group quizzes in the weeks preceding the individual test, then 10 points will be added to that particular test (or to the retake if relevant). To obtain full credit for a quiz, it must be turned in when requested or one must have a documented excuse as described in section I and II below.

Individual Tests:

There will be 3 individual lecture tests during the semester. Missing a test, without a proper arranged excuse (see below) will result in a grade of 0 if not made up on the retake. Each of the tests will have a similar copy available for retake. Retakes must be completed **before** the presentation of the next test. For example, to retake test 2, one must take it before the time that test 3 is presented in class. The projected times for tests will be posted on the internet under http://www.genchem.net/gobtestsch.html

Final Standardized Exam:

A standardized final exam will be presented during the final exam week. The student should take the final on the day assigned. If this is not possible, the student may take the final exam during one of the designated times and at the designated place for the other CHEM 1010 sections. **There will be no special case without a documented excuse.** (See sections I and II below.) (Modifications of the Final Exam policy is up to the instructor.)

TEACHING AIDS AND DEVICES:

Overhead projector - view graphs and multimedia station where available
Periodic Chart
Internet home page for handouts and instructions: http://www.genchem.net

e-mail address: condonj@roanestate.edu

CHALLENGE TESTING:

A challenge test is an opportunity for those students who have a previous background in chemistry to test out of taking CHEM 1010 and still obtain credit for the course. Challenge testing must be performed on two tests, one for the lecture materials and another for the laboratory material. In place of the laboratory test, the student may select to complete the laboratory work. The lecture test must be passed with a grade of B or greater. Passing the lecture session examination is a prerequisite for the laboratory examination. The laboratory examination will be comprehensive over all the materials covered during the normal semester and a demonstration of laboratory skills. To qualify for the challenge test, a student must sign up for the course and attend at least the first session. The lecture challenge test must be taken before the last day of classes for the semester for which the student has registered.

CHEATING POLICY:

The consequences for a student caught cheating are **totally** at the discretion of the instructor. The consequences are completely arbitrary and uniform enforcement or uniform consequences **are not required nor promised**. Consequences may include a recommendation of expulsion to the dean. The policy is consistent with the Roane State Community College statement of Integrity:

> "An essential feature of any institution of higher learning is a commitment to maintaining an atmosphere of intellectual integrity and academia honesty. Plagiarism (the use of intellectual property of someone else without giving proper credit), cheating and other forms of academic dishonesty are prohibited. The instructor has the authority to assign an F or a zero for the exercise or examination, or to assign an F in the course, to a student found guilty of academia misconduct. Each student is responsible for his/her own personal integrity and honor in academic life, and when accepting admittance to Roane State, affirms and subscribes to this commitment to neither knowingly give nor receive any inappropriate assistance in academic work."

Documented excuses for obtaining a makeup test, lecture or laboratory:

Makeup or prearranged testing is possible for the following circumstances. Makeup laboratories may be possible for instances where a proper excuse is presented. Due to the nature of laboratory work, however, the makeup laboratory assignment may not necessarily be the same as the normally scheduled assignment.

Section I - Excuses after-the-fact:

The following are the only acceptable after-the-fact excuses for obtaining a makeup test and laboratory assignments.

1) A written excuse from a licensed physician. The excuse must state that the student missed the test due to a medical emergency that the physician states was important enough that it needed immediate attention or that the student was to ill to function in a normal fashion.

2) A written excuse from an undertaker stating that the student had family responsibilities related to the death of a close relative.

3) A written excuse from the Dean of Students, the Associate Dean for Math-Science, the Academic Dean (or Vice-President) or the College President stating the reason for the absence and that the Dean (or other) judges that the student had an uncontrollable

circumstance made it impossible to attend the date of the test.
4) Court proceedings that had not been scheduled more than a week in advance.

The student must take the make-up test no later than 24 hours after the end of the date of return. The student must be ready to do the laboratory assignment within 24 hours. The arrangements for makeup laboratories are at the discretion of the laboratory instructor.

Section II - Prearranged excuses:
The following are excuses that may be given for a make-up test if presented before the date of test. Normally the test will be taken in advance of the scheduled time. The arrangements for makeup laboratories are at the discretion of the laboratory instructor and should be prearranged.
1) Official school functions, for example: Roane State Singers, Basketball team etc., which involve out-of-area travel. A faculty letter is required for this excuse.
2) Court proceedings that had been scheduled more than a week in advance. A court or lawyer document of scheduled appearance is required for this excuse.
3) Jury duty - this requires a discussion with the instructor and documentation of jury duty requirements.
In all cases the excuse should be signed and dated and should state: 1) The date of the absence, 2) The date of return and 3) The printed name of the person issuing the excuse.

RSCC policies: The following Roane State Community College policies apply in all chemistry courses.

Cell phones:
RSCC policy on cell phones in the classroom:
The use of cell phones within the classroom setting is expressly prohibited. All cell phones will be placed on silent mode, put away, and kept out of sight for the duration of the class.

Class demeanor:
RSCC policy allows faculty members to temporarily remove or exclude from the classroom any student engaged in disruptive conduct. For purposes of this class, disruptive conduct is defined as, but not limited to, behavior that obstructs or disrupts the learning environment. Examples can include the use of offensive language, harassment of students or faculty, outbursts from a student that disrupts the flow of instruction or presents concentration on the subject taught, and failure to cooperate in maintaining classroom decorum.

Disruptive conduct also includes the use of any electronic or other noise- or light-emitting devices such as beepers, pagers, cell phones, palm pilots, laptop computers, gameboys, CD players and the like that disturb others. Use of such items is therefore prohibited in the classroom. Cellular telephones are not to be used during class for any purpose, including making or receiving calls, photographs, text messages, or playing games.

Disruptive conduct will lead to exclusion from class for the remainder of the class period. A student excluded from the classroom for disruptive conduct is responsible for any class assignments made or tests given during his/her absence.

Disability accommodations:

Roane State Community College complies with Section 504 of the Rehabilitation Act of 1973 and with the Americans with Disabilities Act of 1990 (ADA). According to Section 504 and ADA, "a person with a disability is someone who has a disability that impairs a major life function, who has a history of having a disability and/or who is regarded as having a disability."

In all chemistry courses in order to receive accommodations for a disability the student must obtain a "Disability Services Section 504 Accommodation" form and present it to the instructor within the first two weeks of classes. These forms are available from the disability services staff, Beverly Bonner, vice president and disability coordinator, at (865) 882-4550 or Bonner@roanestate.edu