

Syllabus - CHEM 1120
General Chemistry II
Spring Semester - 2012
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COURSE TITLE: General Chemistry II

TEXTS:

Principles of Chemistry, Nivaldo J. Tro, Prentice Hall, NY, ISBN-13 978-0-321-56004-9 (-3)
General Chemistry Laboratory Manual, 10th Edition, by J. B. Condon, Roane State Foundation

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 nor supply calculators.

CREDIT: 4 semester hours

PREREQUISITE: CHEM 1110

EMPHASIS: Chemical reaction equilibria, solution equilibria, chemical thermodynamics, electrochemistry, chemical kinetics and introduction to organic chemistry.

GENERAL OBJECTIVES:

- To acquire a knowledge of the nature and behavior of electrolytes including concentration calculations and normality
- To be able to predict non-redox and some simple redox chemical reactions.
- To be able to balance Redox equations.
- To know the thermodynamic conventions and be able to do chemical thermodynamic calculations.
- To be able to do equilibria calculations.
- To understand and perform mathematical calculations of single and multiple ionic equilibria including pH, solubility, acid and bases, buffers and titration curves.
- To understand and utilize elementary chemical kinetics.
- To understand the concepts of electrochemistry and be able to do electrochemical calculations.
- To know the fundamental functional group and be able to predict organic reactions based upon this knowledge.

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/chem1120comp.html> for details of the CHEM 1120 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.) Every group quiz is due at the beginning of the class period that follows the period in which it was passed out.

Complete all critical items. These items must be successfully completed in order to pass.

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 course is divided into 4 sections. Each section ends with an individual examination that counts as 100% of the section's score. Group quizzes consist of the another 10% as a bonus. Critical Items must be completed successfully to receive a passing grade.

Group Quizzes:

During the regular lecture periods there may be one or several group quizzes. These quizzes count as 10 percentage points within the section being studied. If one has a perfect score for all the group quizzes in the weeks preceding the individual test, then 10 points will be credited to that section. Most of the quizzes are to be performed on the Roane State Momentum System. However some quizzes may, for reasons which make it not possible to do them on Momentum, will be handed out in class. These quizzes are due at the beginning of the class session which follows the one in which they were handed out. In the case of a problem, such as a lost quiz, one can obtain a copies of the quizzes on the internet at: <http://www.genchem.net/groupq2.html> .

To obtain any credit for a quiz, it must be turned in when due or one must have documented excuse as described in section I and II below.

Group quizzes must be completed using the technique the instructor presents. No credit will be given for other techniques or for quizzes written in such a way as to be unreadable. Readability criteria are left up to the instructor's discretion.

Individual Tests and Critical Items:

There will be 4 individual lecture tests during the semester. Test for section 1, 2 and 3 will be presented during class time once. A retake test will be presented for these three tests at other scheduled times. For test 4, the test and retake will be presented in class, with the retake on the last day of classes. Missing a test without a proper arranged excuse (see below) will result in a grade of 0 if not made up on the retake. The projected times for tests will be posted on the internet under <http://www.genchem.net/testsch.html>

Critical Items questions:

Successful completion of the critical items is a prerequisite for passing CHEM 1120. These critical questions will be asked before or during the individual testing time in class. They may also be repeated as many times as the student wishes within the date constraints. For repeat tries, the student must complete them during the instructor office hours or in class when possible is the presence of the instructor. **No critical items may be taken home to be completed.** A different copy for each attempt must be used.

Final Standardized Exam:

A standardized final exam will be presented during the final exam week. How this final is counted in the grading is up to the instructor. 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 1120 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.) The finals schedule is set up to avoid any scheduling conflicts. Conflicts with other courses or assignments should be reported to the proper academic dean to resolve the conflict. No accommodations will be made for conflicts that are created without the consent of the Vice President of Teaching and Learning.

The following is the grading technique used:

		total percentage	Grade
Lecture sections*	40 % (70 %)	above 90 %	A
Final Exam*	30 % (0 %)	80 % - 90 %	B
Laboratory	30 %	70 % - 80 %	C
TOTAL	100 %	60 % - 70 %	D
*if excused from final, the values in parentheses		below 60 %	F
For a Lecture section	Group quizzes 30 pts	Lecture exams	80 pts

TEACHING AIDS AND DEVICES:

In class:

Overhead projector - view graphs and multimedia station where available
Periodic Chart

On the Net:

Internet home page for handouts and instructions: <http://www.genchem.net>
Internet quizzes and mail through the RSCC Momentum at <http://elearn.roanestate.edu>

E-mail:

E-mail address: condonj@roanestate.edu. The instructor will answer y
within 2 days maximum. If you do not receive an answer, check to see if your mail box is full. If
so, delete messages and purge the deleted messages. Use your Roane State e-mail only. Other
servers might reject e-mail from condonj@roanestate.edu as spam.

CHALLENGE TESTING:

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. This 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 special 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 too 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 provided the student is not culpable.

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 provided the student is not culpable. 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.

The student must take the make-up test before the prearranged date. The student must be ready to do the laboratory assignment before the normal time during another laboratory period.

In all cases (both prearranged and after-the-fact) 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

Tutoring

The Learning Center:

Roane State provides subject tutoring and writing help for FREE! You can meet with our tutors one on one, as a group, or visit us on-line. The types of subject help we can offer you include everything from algebra to A& P to Comp I & II. Many of our tutors are students at RSCC who have succeeded in the same courses they offer help in now. The atmosphere is friendly and casual, a great place to study alone or in a group! Visit our website:

www.roanestate.edu/learningcenter

for more information on subjects tutored, locations, and hours.

Can't make it in? The Learning Center Online Momentum page offers online writing help, math study resources, study skills and test-taking help! The LCO is available to all currently enrolled Roane State students and is accessible from the Momentum home page. The Learning Center also provides access to [SMARTHINKING.com](http://learning.smarthinking.com) online tutoring. Simply visit <http://learning.smarthinking.com> and login with username: email@roanestate.edu and password: R#####, where the email address is your Roane State email address, and R##### is your R number.