

**NEOSHO COUNTY COMMUNITY COLLEGE
MASTER COURSE SYLLABUS**

COURSE IDENTIFICATION

Course Code/Number: CHEM 216

Course Title: College Chemistry I Laboratory

KRSN: CHM 1012 – Chemistry I Lab for Majors
(Kansas Regents Shared Number)

Please visit the Kansas Board of Regents website for more information.

Division: Applied Science (AS) Liberal Arts (LA) Workforce Development (WD)
 Health Care (HC) Lifetime Learning (LL) Nursing Developmental

Credit Hour(s): 2

Effective Date: Summer 2013

Assessment Goal Per Outcome: 70 %

COURSE DESCRIPTION

The course is designed for those students needing a strong chemistry background for more advanced courses in chemistry. Course work consists of lectures, discussion, and laboratory work on the fundamental principles in general inorganic chemistry. Topics covered include atomic structure, bonding, solutions, acid-base theory, gas laws, electrolytes, equilibrium, oxidation-reduction, and some descriptive chemistry. Problem solving is stressed in this course.

A series of laboratory activities will be conducted to assist the learning of inorganic chemistry.

MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES

One year of high school algebra, and one year of high school chemistry (or introduction to chemistry course CHEM 105) and/or physical science. Concurrent with CHEM 215.

TEXTS

The official list of textbooks and materials for this course is found on *myNeosho*.

<http://www.neosho.edu/ProspectiveStudents/Registration/CourseTextbooks.aspx?>

GENERAL EDUCATION OUTCOMES

1. Practice Responsible Citizenship through:
 - identifying rights and responsibilities of citizenship,
 - identifying how human values and perceptions affect and are affected by social diversity,
 - identifying and interpreting artistic expression.
2. Live a healthy lifestyle (physical, intellectual, social) through:
 - listing factors associated with a healthy lifestyle and lifetime fitness,
 - identifying the importance of lifetime learning,
 - demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
3. Communicate effectively through:
 - developing effective written communication skills,
 - developing effective oral communication and listening skills.
4. Think analytically through:
 - utilizing quantitative information in problem solving,
 - utilizing the principles of systematic inquiry,
 - utilizing various information resources including technology for research and data collection.

COURSE OUTCOMES/COMPETENCIES

The learning outcomes and competencies detailed in this course outline or syllabus meet or exceed the learning outcomes and competencies specified by the Kansas Core Outcomes Groups project for this course as approved by the Kansas Board of Regents.

Upon successful completion of this course the student will be able to:

1. Work in the laboratory in accordance with good laboratory practices
 - a. Dress in an appropriate manner as to promote safety in the laboratory, wearing appropriate laboratory attire and goggles when anyone is working with chemicals in the laboratory.
 - b. Follow written directions accurately.
 - c. Work safely and effectively, using equipment and chemical carefully and correctly.
 - d. Demonstrate use of required techniques.
 - e. Dispose of waste products in a proper manner.
 - f. Know how to find and understand MSDS's for the chemicals used in a particular laboratory.
2. Gather and record qualitative and quantitative data accurately
 - a. Acquire data using balances and volumetric glassware.
 - b. Make and record visual observations.
 - c. Use computers, when appropriate, as data acquisition tools.
 - d. List or describe experimental assumptions made and any deviations from the written experimental procedures.
3. Handle and evaluate data in logical, productive, and meaningful ways

- a. Create notebooks and laboratory reports that are clear, understandable, and accurately represent the data collected.
 - b. Display computer data in a spreadsheet or graphically, as appropriate.
 - c. Correlate observations with chemical or physical processes.
 - d. Carry out suitable calculations with quantitative data, recognizing when data and calculations are within a reasonable range.
 - e. Use observations of experimental data to present relevant conclusions pertaining to the experimental procedure.
4. Correlate laboratory work with principle topics in Chemistry I lecture.

MINIMUM COURSE CONTENT

The following topics must be covered in the laboratory activities to be performed. However, the course is not limited to these topics. The order of topics and laboratory activities is up to the discretion of the instructor.

1. Chemistry: The Study of Change
2. Atoms, Molecules, and Ions
3. Mass Relationships in Chemical Reactions
4. Reactions in Aqueous Solutions
5. Gases
6. Thermochemistry
7. Quantum Theory and the Electronic Structure of Atoms
8. Periodic Relationships among the Elements
9. Chemical Bonding I: Basic Concepts
10. Chemical Bonding II: Molecular Geometry and Hybridization of Atomic Orbitals

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

90 – 100 %	→ A
80 – 89 %	→ B
70 – 79 %	→ C
60 – 69 %	→ D
Below 60%	→ F

ASSESSMENT OF STUDENT GAIN

The purpose of assessing student learning at Neosho County Community College is to ensure the educational purposes of the institution are met and appropriate changes are made in program development and classroom instruction to allow for student success. The instructor(s) of this course will determine the methods of assessment most appropriate and complete an assessment report at the end of the course.

ATTENDANCE POLICY

1. NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.
2. Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified. Please refer to the Student Handbook/Academic Policies for more information
3. Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

ACADEMIC INTEGRITY

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

ELECTRONIC DEVICE POLICY

Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

NOTE:

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

ACCOMMODATIONS

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

NON-DISCRIMINATION POLICY

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

<http://www.neosho.edu/Departments/NonDiscrimination.aspx>

SEXUAL MISCONDUCT POLICY (TITLE IX)

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms. All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

<http://www.neosho.edu/TitleIX.aspx>

COURSE NOTES