

## Introduction to Chemistry Laboratory Syllabus

### COURSE IDENTIFICATION

COURSE PREFIX NUMBER:	CHEM 106
COURSE TITLE:	Introduction to Chemistry laboratory
DIVISION:	Applied Sciences
CREDIT HOURS:	2
INITIATION/REVISED DATE:	Fall 2010
ASSESSMENT GOAL PER OUTCOME(S):	70%

### CLASSIFICATION OF INSTRUCTION

Academic

### COURSE DESCRIPTION

The lab is a series of laboratory activities to assist in learning the lecture of chemistry.

### PREREQUISITES AND OR COREQUISITES

Co-requisite: Concurrent enrollment in CHEM 105

### TEXT

\*The official list of textbooks and materials for this course are found on Inside NC.

- Corwin, Charles. (2006). Laboratory Manual: Introductory Chemistry. 4<sup>th</sup> Edition. Upper Saddle River, NJ; Pearson, Prentice Hall.
- A scientific calculator.

### COURSE OUTCOMES

Upon completing the course the student will be able to:

1. Use the scientific method in laboratory work to support or disprove a hypothesis.
2. Collect and analyze experimental data and draw conclusions from that data.
3. Set up and manipulate laboratory apparatus in completing experiments.
4. Perform safely in a laboratory setting.

### COURSE OUTLINE/EXPERIMENTS

1. Measurements (length, mass, volume, and temperature)
2. Density determinations (solids and liquids)
3. Physical and Chemical Properties of substances
4. The periodic table (families of elements)
5. Qualitative analysis of ions (anions and cations)
6. Writing chemical equations; combination, decomposition, replacement, and neutralization reactions.

7. Empirical Formula (empirical formula of magnesium oxide)
8. Avogadro's number and the mole concept
9. Percent composition and Empirical formula (analysis of Alum)
10. Mass-Mass Stoichiometry and percent yield (Decomposing baking soda)
11. Net ionic equations
12. Acid-Base titrations
13. Oxidation-reduction (redox) reactions

**Note:** Revision of experiments will take place due to chemical availability

### INSTRUCTIONAL METHODS

Pre-laboratory Assignments  
Discussions  
Demonstrations  
Cooperative lab groups  
Laboratory Simulations and Videos  
Computer probes and analytic equipment

### GRADING SCALE

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

### ASSESSMENT OF STUDENT GAIN

1. Pre-laboratory exercise: Students must complete their pre-laboratory assignments before coming to class.
2. Quizzes: Announced and un-announced quizzes. There will be no make-up for missed quizzes
3. Laboratory notebook: Students must be present to complete their lab notebook and do a post-lab analysis of the lab activity.
4. Exam: There will be two exams administered to test student understanding of the concepts presented in the laboratory.

### ATTENDANCE POLICY

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.

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 seventy five (75) minutes per credit hour for the course or, in the case of on-line or other non-traditional courses, the student is inactive for one-eighth of the total course duration, 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 withdrawn. Alternatively, the faculty member may summarily issue the grade of "F" to any student whose absences exceed the above amounts. The normal appeal process may be utilized by the student.

### 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.

### CELL PHONE POLICY

Student cell phones and pagers must be turned off during class times. Faculty may approve an exception for special circumstances

### NOTES:

- The information and statements contained in this document are subject to change at the discretion of the instructor and NCCC. Changes will be published in writing and made available to students
- All the written materials given to students' remains a property of NCCC.

**NOTE:** If you are a student with a disability who may need accommodation(s) under the Americans with Disabilities Act (ADA), please notify the *Dean of Student Development*, Chanute Campus, Student Union, 620-431-2820, Ext. 213., or the *Dean, Ottawa Campus, 785-242-2607 ext 312*, 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.