

**NORTHEASTERN TECHNICAL COLLEGE
COURSE OUTLINE**

COURSE:	PREFIX NO.	EFFECTIVE DATE	NEXT REVIEW DATE		
CHM	100	October 2010	October 2012		
TITLE:	CREDITS	CONTACTS			
		CLASS	LAB	TOTAL	
Introductory Chemistry	4	4	0	4	

PREREQUISITES: MAT 101

DESCRIPTION: This is an introductory course in general chemistry and principles of chemistry. Emphasis is placed on mathematical solutions and laboratory techniques.

TEXTBOOK(S) OR ALTERNATIVE: Fundamentals of Chemistry, David E. Goldberg, 5th Edition, 2007. Glencoe.

MATERIALS (specifying those to be purchased by student):

COLLATERAL READING: The student will be responsible for several reports on Chemistry issues which will be turned in to the instructor.

CLASS MANAGEMENT ACTIVITIES (Attendance, tardies, testing, etc.):

Academic dishonesty: Students are expected to do their own work. Please refer to the NETC Student Code and Grievance Procedure for a definition of academic dishonesty and an outline of the disciplinary action that may result therefrom.

Attendance: According to college policy, a student may miss 20% of the scheduled class periods. Students are expected to attend all scheduled classes, absences are allowed for unavoidable hardships such as illness or car trouble. When a student exceeds this limit, he or she will be dropped for excessive absences, with the resulting grade of "F". If the student initiates the withdrawal before midterm, a grade of "W" will be used. After midterm, the grade of "W" will only be used for students who are passing the course; if a student who is not passing initiates a drop after midterm, he or she will receive a grade of "WF".

Tardies: A student is considered tardy if he or she arrives for class after the scheduled time. Three tardies constitute 1

hour of absence.

Electronic Devices in the Classroom:

To minimize classroom disruptions and to protect the integrity of testing, activated electronic communication devices such as pagers, beepers, and telephones are not permitted in classrooms at NETC. The only exception is for on-call emergency personnel (police, fire, EMS); these students are required to notify the instructor of their need for such devices with documentation verifying employment. This information must be provided at the beginning of the term and at the beginning of each applicable class session.

Student ID: It is mandatory that every student wear his or her student ID at all times. Students will be dismissed from class if not wearing their ID. The student may get his/her ID and return to class before the midpoint of the class. If the student cannot get his/her ID and return to class by the midpoint, the instructor will record the absence.

Disabilities Statement: Students with disabilities are encouraged to contact the Vice President for Student Services to discuss needs or concerns as they pursue an academic program and participate in campus life. The Vice President for Student Services will provide guidance regarding official documentation of disabilities and/or accommodation of needs. (See College Catalog)

RESOURCES (A-V, persons, tools/equipment):

COURSE TOPICAL OUTLINE (List topics and sub-topics of course) and Calendar or approximate length of time devoted to topic.

TOPICS

Classification of matter; properties; matter and energy; chemical symbols; the periodic table; laws, hypotheses, and theories

Factor-label method; the metric system; significant digits; density; time, temperature, and energy

Laws of chemical combination; Dalton's atomic theory; subatomic particles; atomic mass; development of the periodic table

Bohr theory; quantum numbers; relative energies of electrons; shells, subshells, and orbitals; shapes of orbitals; energy level diagrams; periodic variation of electronic configuration

Chemical formulas; ionic bonding; formulas for ionic compounds; electron dot diagrams; covalent bonding

Binary nonmetal-metal compounds; naming ionic compounds; naming acids and acid salts; hydrates

Formula masses; percent composition; the mole; empirical formulas; molecular formulas

The chemical equation; balancing equations; predicting the products of chemical reactions; acids and bases

Properties of ionic compounds in aqueous solution; writing net ionic equations

Mole calculations for chemical reactions; mass calculations for chemical reactions; calculations involving other quantities; problems involving limiting quantities; theoretical yield and percent yield; calculations with net ionic equations

Definition and uses of molarity; molarities of ions; titration

OBJECTIVES OF COURSE: Upon successful completion of this course, the

student should be able to :

- > collect information needed for a given application
- > analyze information
- > evaluate information to determine usefulness
- > apply knowledge to make decisions and solve problems

INSTRUCTIONAL METHODS TO COMPLETE OBJECTIVES:

Lectures, demonstrations, and computerized drill and practice on topics in chemistry. Science projects, films and field trips may also be used to supplement instruction.

EVALUATIVE METHODS TO APPRAISE OBJECTIVES:

Test covering the assigned topics of study will be given and homework and other outside assignments will be evaluated.

Course grades will be weighted average of these components:

Class work and outside assignments	25%
Test average	<u>75%</u>
	100%

GRADING SCALE:

- 90 - 100 = A
- 80 - 91 = B
- 70 - 79 = C
- 60 - 69 = D
- BELOW 60 = F