MAYLAND COMMUNITY COLLEGE
Welcomes You To:

General Chemistry I
CHM 151.20

Fall 2007

Course Description

This course covers fundamental principles and laws of chemistry. Topics include measurement, atomic and molecular structure, periodicity, chemical reactions, chemical bonding, stoichiometry, thermochemistry gas laws, and solutions. Upon completion, students should be able to demonstrate an understanding of fundamental chemical laws and concepts as needed in CHM 152. This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.

Credit Hours: 4 **Contact Hours:** 6 (3 lecture, 3 lab)

Prerequisites: RED 090 **Corequisites:** none

Instructor Information

Instructor: Dr. William Glenn
Office Location: 219, Gwaltney Hall
Telephone Number: 765-7351 x. 381
E-mail Address: bglenn@mayland.edu

Office Hours: T-TH 5:15-6pm and by request after class

Course Information

Location and Time: CHM 151.20 meets T and TH, 6-8:50pm, room 265.

Required Text(s): Chemistry: Principals and Reactions. Masterson and Hurley. Thompson, Brooks/Cole. 5th ed.

Experiments in General Chemistry. Greco, Rickard and Weiss. Pearson/Prentice Hall, Upper Saddle River, NJ. 9th ed. (laboratory book)

Mission and Competencies for the General Education Core at Mayland Community College:

Mayland Community College's General Education core courses will provide the essential body of knowledge and skills that enable all degree-level students to perform competently as employees and as contributing members of society.

Graduates of all degree programs at Mayland Community College will have completed the general education core. That core encompasses the essential knowledge and skills that enable all degree-level students to perform competently as employees and as contributing members of society. Upon completion of the general education core, students will be able to demonstrate the following:

1. Effective communication in speaking and listening situations needed for college, personal, and work successes
2. Effective communication in writing and reading situations needed for college, personal, and work successes
3. Logical, critical, and creative thinking to evaluate evidence and reach a conclusion
4. Application of basic computer use skills
5. Application of fundamental math skills
6. Basic awareness of the diversity of various world groups from both historical and contemporary contexts

Course Objectives Designed to Assess, Evaluate, and Document the Pertinent Gen Ed Competencies for this Course:

For each of the following components of this course, the applicable Gen Ed Learning Outcomes are **1, 2, 3, 4,** and **5.**

Course Objectives/Competencies:

1. Fundamental concepts of inorganic chemistry
2. Fundamental concepts of organic chemistry
3. Fundamental concepts of biochemistry

Attendance Policy/Tardiness/Make-Up Work:

Grading Criteria/Tests/Projects:

Grading Scale:

A = 90-100, 93-100, 500 points, etc.
B =

C =
D =
F =

Inclement Weather Procedures:

In case of inclement weather, check LEO or call 765-7351 to see if weather conditions justify cancellation of class.

Academic Standards/Student Expectations/Ethics:

Withdrawal Dates:

These dates for Fall Semester 2007 are:

Sept. 22	**Last day for unconditional withdrawal**
Oct. 30	**Last day for conditional withdrawal**
Oct. 31-end of semester	**No drops except for documented emergencies**

The official drop date will be the date that you take the signed form to the registrar's office.

Administrative Withdrawal statement:

If a student has not been in contact with the instructor and has not attended class for a consecutive two-week period, an administrative withdrawal will be submitted by the instructor.

The following ADA statement: Any student requesting special accommodations for this course due to a disability should apply for services through the SOAR Office or the Counseling Center, which will document the disability. A counselor will then help determine which accommodations, if any, the student needs for success in this course.

Course Outline/Weekly Topics:

Week 1 Methods and measurement.

Math review. Exponential notation. Multiplication and division.
Log functions that are used in chemistry.

Lab equipment. Use of and calibration of glassware.

Large and small numbers.

Measurement. Length, volume, temp, etc. used in the metric system

See Appendix, density chemical and physical properties.

Errors in measurement and fallacies in interpretation
(extrapolation and interpolation).

Symbols for the first 20 elements shown on the periodic table (memorize).

Week 2	Atoms molecules and ions. Textbook, Chap.2
Week 3	Stoichiometry (weight and volume). Relationships given by chemical equations.
Week 4	Reaction aqueous (water) solutions. Textbook, Chap.4.
Week 5.	Gases and the gas laws. Textbook, Chap. 5
Week 6	Electronic structure of elements and related chemical reactivity.
Week 7	Covalent bonding.
Week 8	Thermochemistry. Textbook, Chap. 8.
Week 9	Liquids and solids. Textbook, Chap. 9
Week 10	Solutions. Textbook, Chap. 10
Week 11	Rate of reaction. Textbook, Chap. 11
Week 12	Gaseous chemical equilibria. Textbook, Chap. 12
Week 13	Acids and Bases. Textbook, Chap. 13
Week 14	Equilibria in acid-base solutions. Textbook, Chap. 14
Week 15	Complex ions including hemoglobin and chlorophyll. Textbook, Chap. 15.
Week 16	???