COURSE OUTLINE
Revision: Joan Stover, February 2008

DEPARTMENT: Academic Programs
CURRICULUM: The Natural World
COURSE TITLE: Introduction to Chemistry
COURSE NUMBER: CHEM& 121
TYPE OF COURSE: Academic Transfer
  Special Requirement Met: Mathematics/Quantitative Reasoning
AREA(S) OF KNOWLEDGE: The Physical Universe
COURSE LENGTH: 1 quarter
CREDIT HOURS: 5
LECTURE HOURS: 33
LAB HOURS: 44
CLASS SIZE: 27
PREREQUISITES: MATH 085 (Algebra II) or one year of high school algebra

COURSE DESCRIPTION:
Fundamental inorganic and introduction to organic chemistry. Of particular interest to health science students. Lab included.
CHEM& 121 Introduction to Chemistry
February 2008

STUDENT LEARNING OUTCOMES AddressED:

1. Communication - Read and listen actively to learn and communicate. Speak and write effectively for personal, academic and career purposes.
2. Computation – Use arithmetic and other basic mathematical operations as required by program of study. Apply quantitative skills for personal, academic and career purposes. Identify, interpret, and utilize higher level mathematical and cognitive skills.
3. Human Relations – Use social interactive skills to work in groups effectively. Recognize the diversity of cultural influences and values.
5. Technology – Select and use appropriate technological tools for personal, academic and career tasks.
6. Personal Responsibility - Be motivated and able to continue learning and adapt to change. Value one’s own skills, abilities, ideas and art. Take pride in one’s work. Manage personal health and safety. Be aware of civic and environmental issues.
7. Information Literacy - Access and evaluate information from a variety of sources and contexts, including technology. Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Demonstrate a clear and direct understanding of chemical concepts, including atoms and molecules.
2. Understand the interactions of atoms and molecules with energy and their reactions.
3. Understand the impact of chemistry on everyday life.
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TOPICAL OUTLINE:

I. Methods and measurements
II. Matter and energy
III. Mole concepts and stoichiometry
IV. Atomic theory and periodic law
V. Chemical bonds and compounds
VI. Kinetic theory and states of matter
VII. Solutions and colloids
VIII. Acids, bases, and ionic compounds
IX. Reaction kinetics and equilibria
X. Oxidation and reduction processes
XI. Radioactivity and nuclear chemistry

Total hours 77
<table>
<thead>
<tr>
<th>SLO #</th>
<th>Included in Course Objective Number</th>
<th>SSCC Student Learning Outcomes</th>
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</thead>
<tbody>
<tr>
<td>SLO 1.1</td>
<td>Communication - Read and listen actively</td>
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<tr>
<td>SLO 1.2</td>
<td>Communication - Speak and write effectively</td>
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<tr>
<td>SLO 2.1</td>
<td>Computation - Use mathematical operations</td>
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<tr>
<td>SLO 2.2</td>
<td>Computation - Apply quantitative skills</td>
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<tr>
<td>SLO 2.3</td>
<td>Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills</td>
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<tr>
<td>SLO 3.1</td>
<td>Human Relations - Use social interactive skills to work in groups effectively</td>
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<tr>
<td>SLO 3.2</td>
<td>Human Relations - Recognize the diversity of cultural influences and values</td>
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<tr>
<td>SLO 4.1</td>
<td>Critical Thinking and Problem Solving -</td>
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<td>SLO 5.1</td>
<td>Technology - Select and use appropriate technological tools</td>
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<td>SLO 6.1</td>
<td>Personal Responsibility - Be motivated and able to continue learning and adapt to change</td>
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<td>Personal Responsibility - Be aware of civic and environmental issues</td>
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<td>SLO 7.1</td>
<td>Information Literacy - Access and evaluate information</td>
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<td>SLO 7.2</td>
<td>Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society</td>
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