COURSE OUTLINE
Revision: Joan Stover, February 2008

DEPARTMENT: Academic Programs
CURRICULUM: The Natural World
COURSE TITLE: Introduction to Organic Chemistry
COURSE NUMBER: CHEM& 122
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: CHEM& 121

COURSE DESCRIPTION:
Fundamental biochemistry. Lab included.
CHEM & 122 Introduction to Organic Chemistry  
February 2008

STUDENT LEARNING OUTCOMES ADDRESSSED:

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. Understand basic chemical principles as they relate to the properties of the carbon atom and lay the basis for the understanding of biochemistry.
2. Become able to draw structural formulas of organic compounds.
3. Use functional groups to classify, name, and recognize major physical and chemical properties of organic molecules.
4. To be able to recognize and describe typical organic reactions of the main functional groups.
5. To initiate recognition of biomolecules as polymeric forms of organic molecules.
TOPICAL OUTLINE:

I. Introduction to Organic Chemistry: Alkanes
II. Alkenes, Alkynes, and Aromatic Compounds
III. Compounds with Oxygen, Sulfur, or a Halogen
IV. Amines
V. Aldehydes and Ketones
VI. Carboxylic Acids and Their Derivatives
VII. Amino Acids and Proteins
VIII. Enzymes and Vitamins
IX. Chemical Messengers: Hormones, Neurotransmitters, and Drugs
### CHEM& 122 Introduction to Organic Chemistry
February 2008

<table>
<thead>
<tr>
<th>SLO #</th>
<th>Included in Course Objective Number</th>
<th>SSCC Student Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLO 1.1</td>
<td>Communication</td>
<td>Read and listen actively</td>
</tr>
<tr>
<td>SLO 1.2</td>
<td>Communication</td>
<td>Speak and write effectively</td>
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<tr>
<td>SLO 2.1</td>
<td>Computation</td>
<td>Use mathematical operations</td>
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<tr>
<td>SLO 2.2</td>
<td>Computation</td>
<td>Apply quantitative skills</td>
</tr>
<tr>
<td>SLO 2.3</td>
<td>Computation</td>
<td>Identify, interpret, and utilize higher level mathematical and cognitive skills</td>
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<tr>
<td>SLO 3.1</td>
<td>Human Relations</td>
<td>Use social interactive skills to work in groups effectively</td>
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<tr>
<td>SLO 3.2</td>
<td>Human Relations</td>
<td>Recognize the diversity of cultural influences and values</td>
</tr>
<tr>
<td>SLO 4.1</td>
<td>Critical Thinking and Problem Solving</td>
<td>1, 4, 5</td>
</tr>
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<td>SLO 5.1</td>
<td>Technology</td>
<td>Select and use appropriate technological tools</td>
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<td>SLO 6.1</td>
<td>Personal Responsibility</td>
<td>Be motivated and able to continue learning and adapt to change</td>
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<td>SLO 7.1</td>
<td>Information Literacy</td>
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PREPARED BY: J. Stover  
DATE: May 2008