COURSE OUTLINE
Revision: Joan Stover, February 2008

DEPARTMENT: Academic Programs
CURRICULUM: The Natural World
COURSE TITLE: Introduction to Biochemistry
COURSE NUMBER: CHEM& 123
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& 122

COURSE DESCRIPTION:
Fundamental biochemistry. Lab included.
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. Understand the structure and function of protein, carbohydrate, lipid, and nucleic acids in the body.
2. Be familiar with protein structure and its role in the function of enzyme and coenzyme chemistry.
3. Learn the function of hormones and neurotransmitters and the action of drugs.
4. Develop an understanding of the central pathways and themes of biochemical energy production.
CHEM& 123 Introduction to Biochemistry
February 2008

TOPICAL OUTLINE:

I. Generation of Biochemical Energy
II. Carbohydrates
III. Carbohydrate Metabolism
IV. Lipids
V. Lipid Metabolism
VI. Nucleic Acids and Protein Synthesis
VII. Genomics
VIII. Protein and Amino Acid Metabolism
IX. Body Fluids

REVISED BY: Joan Stover
DATE: February 2008
# SLO #  Included in Course Objective Number  
<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>1, 3, 4</td>
<td>Critical Thinking and Problem Solving -</td>
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<tr>
<td>SLO 5.1</td>
<td>2</td>
<td>Technology - Select and use appropriate technological tools</td>
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<tr>
<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>SLO 6.4</td>
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<td>Personal Responsibility - Manage personal health and safety</td>
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<td>SLO 6.5</td>
<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>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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PREPARED BY: J. Stover  
DATE: May 2008