

COURSE OUTLINE

Revision: Joan Stover, February 2008

DEPARTMENT:	Academic Programs
CURRICULUM:	The Natural World
COURSE TITLE:	Chemical Concepts
COURSE NUMBER:	CHEM& 110
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:	44
LAB HOURS:	22
CLASS SIZE:	35
PREREQUISITES:	None

COURSE DESCRIPTION:

For non-science majors; humanistic approach to chemistry. Practical applications, computer graphic illustrations, and experiments on principles, facts and theories. Lab included.

CHEM& 110 Chemical Concepts
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.
4. Critical Thinking and Problem Solving - Think critically in evaluating information, solving problems and making decisions.
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.

GENERAL COURSE OBJECTIVES:

At the end of the course the student will:

1. Understand the cause of selected natural chemical phenomena.
2. Demonstrate a scientific basis for making personal choices for use of some chemicals and chemical products.
3. Demonstrate a rational basis for making societal choices that may affect the quality of human life.
4. Develop an insight into the complex problem of chemical dependency.
5. Evaluate personal habits in exercise programs and in nutritional selections that are compatible with healthful living.
6. Understand the balance involved in population control, the chemical control of disease, and the ability of the world to produce food.

CHEM& 110 Chemical Concepts
February 2008

TOPICAL OUTLINE:

I.	Introduction to chemistry	8
II.	Measurement as a foundation of chemistry	8
III.	Methods of modeling very small particles	8
IV.	The nature of the atom	8
V.	The periodic table	8
VI.	The nature of the chemical bond	8
VII.	Driving forces for the making and breaking of chemical bonds	8
VIII.	Applications of chemistry	10
	A. On earth	
	B. With metals	
	C. On surfaces	
	D. Uniquely and multiply with carbon	

Total hours 66

CHEM& 110 Chemical Concepts
February 2008

SLO #	Included in Course Objective Number	SSCC Student Learning Outcomes
SLO 1.1		Communication - Read and listen actively
SLO 1.2	2	Communication - Speak and write effectively
SLO 2.1		Computation - Use mathematical operations
SLO 2.2	1	Computation - Apply quantitative skills
SLO 2.3		Computation - Identify, interpret, and utilize higher level mathematical and cognitive skills
SLO 3.1		Human Relations - Use social interactive skills to work in groups effectively
SLO 3.2		Human Relations - Recognize the diversity of cultural influences and values
SLO 4.1	1, 4, 5	Critical Thinking and Problem Solving -
SLO 5.1	4	Technology - Select and use appropriate technological tools
SLO 6.1		Personal Responsibility - Be motivated and able to continue learning and adapt to change
SLO 6.2		Personal Responsibility - Value one's own skills, abilities, ideas and art
SLO 6.3		Personal Responsibility - Take pride in one's work
SLO 6.4	3, 4	Personal Responsibility - Manage personal health and safety
SLO 6.5		Personal Responsibility - Be aware of civic and environmental issues
SLO 7.1		Information Literacy - Access and evaluate information
SLO 7.2		Information Literacy - Use information to achieve personal, academic, and career goals, as well as to participate in a democratic society

PREPARED BY: S. Endsley
DATE: May 2008