CHEM 220

CAPITAL COMMUNITY-TECHNICAL COLLEGE
COURSE OUTLINE FOR
BIOCHEMISTY

SECTION I

SECTION AREA AND COURSE NUMBER:

COURSE TITLE: Biochemistry CREDITS: 4

CATALOG DESCRIPTION: Concepts fundemental to understanding the chemistry of life process will be explored. Topics will include but are not limited to: the structure of proteins, enzyme kinetics and mechanism, control of protein synthesis, nucleic acid structure and function, structure of lipids and carbohydrate and membrane structure and function.

LECTURE HOURS PER WEEK: 3

LABORATORY HOURS PER WEEK: 3

PREREQUISITES: Chem 210 or Chem 2210

RECOMMENDED: At least one course in biology

COURSE OBJECTIVES: The objectives of this course are as follows:

- to develop an understanding of the control of life fuctions by enymes and nucleic acids
- to explore the archetechure of major macromolecules with in cells and to observe the relationship between this and the functions of the molecules.
- to develop laboratory skills necessay to isolate and quantify protein and other macro molecules in non-complex situations.
- to develop the laboratory skills necessay to do simple experiments using enzymes

SECTION II

1. COURSE CONTENT AND SCOPE:

A. OUTLINE OF TOPICS TO BE ADDRESSED IN THE COURSE:

I. Proteins
   a. Structure of
   b. Isolation, purification and quantification
   c. Enzymes
      i. Types

ii. Kinetics
iii. Mechanisms

II. Nucleic Acids
a. Structure of
b. In Protein Synthesis
c. Regulation of Protein Synthesis
d. Replication and Synthesis of Nucleic acids

III. Lipids and Carbohydrate
a. Structure of
b. Membrane Stucture and Function

B. READINGS:
Reading assignments will be made from the textbook. These may be supplemented by assignments from other books and/or handouts. Instructors may also occasionally assign reading from material available in the library.

C. WRITING ASSIGNMENTS Instructors may require students prepare written descriptions of various processes or procedures.

D. OUTSIDE ASSIGNMENTS: Instructor may assign homework problems to be handed in.

2. METHODS OF EVALUATION
Examinations will require students to solve written problems and to describe operations and procedures.

The final examination will constitute between 20-35% of the final grade. The remaining 65-80% of a student's grade will be determined by one or more of the following: additional tests and quizzes, graded homework assignments, or assigned class presentations.

3. METHODS OF INSTRUCTION:
The instructor will direct the students investigation of the topics under consideration. Students are expected to read the text and work out the answers to the questions and problems given in the text. Students should relate what they are learning in class to their own experience and should ask such questions as arise from these considerations.

4. TECHNOLOGY: Computers may used instruction and demonstration.

5. REQUIRED TEXTS AND SUPPLIES:
Students will be required to purchase a textbook. Most students will also wish to have a calculator.