COURSE INFORMATION FORM

DISCIPLINE  Biology

COURSE TITLE  Introduction to Cell Biology

CR.HR  3  LECT HR.  3  LAB HR.  0  CLIN/INTERN HR.  0  CLOCK HR.  3

CATALOG DESCRIPTION
Fundamental concepts preparatory to the study of physiology and microbiology with emphasis on the cell and subcellular structures.

PREREQUISITES
MATH 20 or satisfactory score on placement test.

EXPECTED STUDENT OUTCOMES IN THE COURSE
Upon completion of this course, the student will be able to:
1. Describe the importance of science-mathematical methods.
   *Demonstrate the ability to use scientific methodologies as they apply to the development of scientific experiments and the interpretation of data.*

2. Solve basic math problems relevant to biology
   *Demonstrate the ability to use appropriate mathematical skills to solve biological problems and interpret biological data.*

3. Outline the structure and function of the major chemical building blocks of life.
   *Demonstrate an understanding of the structure, function and importance of biological molecules.*

4. Describe the structure, function and reproduction of cells.
CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Written examinations (1-4)
2. Homework assignments (1-4)
3. Projects and reports (1-4)

PROGRAM-LEVEL OUTCOMES ADDRESSED

General Education Outcomes
Specify which general education outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes and assessment measures.

Occupational Program Outcomes
Specify which occupational program outcomes, if any, are substantially addressed by the course by completing the “Course/Program Assessment Matrix” to show the relationship between course and program outcomes to assessment measures.
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Orientation to science
   A. Levels of organization
   B. Homeostasis
   C. Methods of science

II. Math: a language of science
   A. Quantification and measurement
   B. Metric system
   C. Metric-English conversions

III. Basic chemical principles
   A. Elements of life
   B. Chemical bonding
   C. Chemical reactions

IV. Structure and biological significance of water
   A. Solutions
   B. pH

V. Structure and function of organic compounds of life
   A. Proteins and enzymes
   B. Carbohydrates
   C. Lipids
   D. Nucleic acids

VI. Cellular basis of life
   A. Prokaryotes and eukaryotes
   B. Cellular organelles
   C. Cellular energetics
   D. Proteins synthesis
   E. Cellular reproduction