VERNON COLLEGE
SYLLABUS

DIVISION: Mathematics and Science

DATE: 2011-2012

COURSE NUMBER AND TITLE: BIOL 1406 General Biology for Science Majors I

CREDIT HRS: 4 HRS/WK LEC: 3 HRS/WK LAB: 3 LEC/LAB COMB: 6

I. VERNON COLLEGE GENERAL EDUCATION PHILOSOPHY STATEMENT

General education at Vernon College reflects the institution’s deep conviction that successful, satisfying lives require a wide range of skills and knowledge. We are dedicated to providing educational opportunities that develop the academic, career, and personal capabilities of individuals so they may achieve self-fulfillment and participate fully and positively in a democratic society. Vernon College has identified the following college-level competencies generated from the general education core:

GENERAL EDUCATION CORE COMPETENCIES:

A. Critical Thinking: Students will evaluate the validity of ideas through a creative process of questioning, analyzing, and synthesizing.

B. Communication/Interpersonal: Students will develop effective reading, writing, speaking, and listening skills to communicate verbally and nonverbally.

C. Scientific and Mathematical Literacy: Students will apply an understanding of mathematical, natural, and behavioral scientific principles and methods to solve abstract and practical problems.

D. Information Literacy: Students will develop the information literacy skills to confidently and competently locate, use, and evaluate information.

E. Cultural Literacy: Students will develop an appreciation of human culture and its diversity and the role of the creative arts in society.

II. CATALOG DESCRIPTION:

Fundamental principles of living organisms including physical and chemical properties of life, organization, function, evolutionary adaptation and classification. Concepts of reproduction, genetics, ecology, and the scientific method are included. Emphasis at the cellular/molecular level. Prerequisite: Texas Success Initiative complete in Reading and Writing. Lab Fee: $24.00; Special Fee: $12.00

III. REQUIRED BACKGROUND:

Prerequisite: Texas Success Initiative complete in Reading and Writing

IV. TEXTS, OTHER REQUIRED MATERIALS:

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V. METHODS OF INSTRUCTION:

1. The primary instructional method used in this course use a combination of the traditional lecture-discussion method, audio-tutorial approach and internet based work are used to cover some topics. Lecture and/or reading of text and notes available online, discussions and/or papers on relevant or controversial subjects are used. Audio-visual and interactive aids are used in the lecture and online formats.

2. At times lecture and laboratory will be integrated to provide a more practical experience. Laboratory sessions are also required each week with emphasis placed on selected laboratory exercises to reinforce the learning process.

Students desiring auxiliary aids and services for this course should make their requests to
the instructor and the Special Services Director.

VI. COURSE CONTENT:

1. Introduction
2. Principles of Cellular Life
3. Principles of Inheritance
4. Plant Structure and Function
5. Plant Evolution and Biology

VII. LEARNER OUTCOMES:

By the end of this course each student should be able to:
State fundamental biological principles at the molecular, cellular, tissue, organ, and organism level of integration. In addition, the student should participate in a systematic approach to problem solving. They will observe, analyze, evaluate, and synthesize their own conclusions. The student should be able to demonstrate skills in the use of laboratory techniques and equipment. Some expected competencies include:

1. Relate the attributes of living organisms
2. Describe the structure and functions of cells and tissues
3. Describe the role of cellular reproduction in the lives of individual cells and entire organisms
4. Describe the principles of simple inheritance
5. Be able to solve genetics problems involving simple crosses
6. Describe and discuss the various plant structures and their functions
7. Compare and contrast the anatomy and physiology of plant organs and organ systems.
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VIII. ASSESSMENT:

Learner Outcomes are evaluated in both lecture and laboratory settings. Evaluation will be based on testing, classroom or internet participation, evidence of preparation, presentations, attendance, or any combination of the above. Students are also required to prepare a project requiring use of the library and their writing skills.

Vernon College does not discriminate on the basis of color, race, gender, age, religion, national origin, or disability.