

## Master Syllabus

### BIO 1111 - General Biology I

**Division:** Science, Mathematics and Engineering

**Department:** Biology

**Credit Hour Total:** 4.0

**Lecture Hrs:** 3.0 **Lab Hrs:** 2.0

**Prerequisite(s):** DEV 0015AND MAT 0100

**Date Revised:** April 2017

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### Course Description:

This course is designed as the first in a series of two general education science courses. Covers basic chemistry and biochemistry; cellular and molecular biology. Three classroom, two lab hours per week.

### General Education Outcomes:

- Oral Communication Competency
- Written Communication Competency
- Critical Thinking/Problem Solving Competency
- Values/Citizenship/Community Competency
- Information Literacy Competency

### Course Outcomes:

#### Cellular Metabolism

Explain basic cellular thermodynamics, fundamental enzyme kinetics, cell respiration, fermentation, and photosynthesis.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Accumulate a minimum total of 60% of the available points in the course (Lecture exams, Quizzes, and Lab Tests)

#### Chemistry and Biochemistry

Identify and describe fundamental elements and molecules in context to biologically important structures, chemical reactions, and physiological processes.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Accumulate a minimum total of 60% of the available points in the course (Lecture exams, Quizzes, and Lab Tests)

#### Cell Structure and Function

Describe and differentiate the structure and function of major components relating to prokaryotic and eukaryotic cells.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Accumulate a minimum total of 60% of the available points in the course (Lecture exams, Quizzes, and Lab Tests)

#### Scientific Reasoning

Demonstrate an awareness of both the power of the scientific process and its limitations and an awareness of communication as an integral part of the scientific way of knowing, both between and among scientists, and between scientists and the rest of society.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Accumulate a minimum total of 60% of the available points in the course (Lecture exams, Quizzes, and Lab Tests)

#### Genetics

Explain and illustrate cell reproduction, eukaryotic cell cycle, patterns of inheritance, and gene expression.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Accumulate a minimum total of 60% of the available points in the course (Lecture exams, Quizzes, and Lab Tests)

### Outline:

Scientific Method  
Chemistry  
Biochemistry  
Cell Biology  
Metabolism  
Cell Reproduction  
Mendelian Genetics  
Molecular Genetics