

## Master Syllabus

### BTN 1110 - Biotechnology & Bioethics

**Division:** Science, Mathematics and Engineering

**Department:** Biotechnology

**Credit Hour Total:** 3.0

**Lecture Hrs:** 3.0

**Date Revised:** July 2014

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### Course Description:

Introduction to the major fields in biotechnology and the basic science involved in understanding those fields.

### General Education Outcomes:

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

### Course Outcomes:

#### Chemistry and genetics

Describe the basics of chemistry, such as atomic structure and chemical bonding as well as the basics of genetics, such as DNA structure and synthesis, protein synthesis and mitosis.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% or higher of available exam points

#### Major fields in the biotechnology industry

Describe the major fields in the biotechnology industry, which include molecular genetics, proteins, microbiotechnology, plant and animal biotechnology, forensic analysis, bioremediation, aquatic biotechnology and medical biotechnology.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% or higher of available exam points

#### Ethical debates within the biotechnology industry

Describe ethics debates as they impact the biotechnology industry, both in how they affect the industry now and the impacts they may have on the future.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% or higher of available exam points

### Outline:

Basic chemistry and molecular biology  
Recombinant DNA technology, proteins, microbial biotechnology, plant and animal biotechnology, forensic analysis, bioremediation, and aquatic and medical biotechnologies  
Biotechnology regulations  
Bio ethics  
Possible career types and fields in the biotechnology industry