

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

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
- ▣ Information Literacy
- ▣ Oral Communication
- ▣ Written Communication
- ▣ Values/Citizenship/Community
- ▣ Computer Literacy

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