

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: BIO 250 **Credits:** 3

Course Title: Biotechnology Research Methods and Skills

Course Description:

Provides students with knowledge and advanced laboratory skills needed for employment in the biotechnology industry. Focuses on use of basic and specialized lab equipment and techniques such as solution chemistry, cell culture, DNA extraction and analysis, and protein extraction and analysis. Emphasis in on lab safety, documentation, quality control, and use of SOPs. Prerequisite: BIO 101 and BIO 147 with a C or higher. Co-requisite: BIO 253. BIO 253 Biotechnology Concepts must be taken prior to or concurrent with enrollment in this course. Lecture 1 hour, Laboratory 6 hours per week. Total 7 hours per week. 3 credits

General Course Purpose:

Prerequisites and Co-requisites:

BIO 101 and BIO 147 with a C or higher.

BIO 253. BIO 253 Biotechnology Concepts must be taken prior to or concurrent with enrollment in this course.

Learning Outcomes:

Upon completion of the course, the student will be able to

- Maintain proper documentation of lab protocols and experiments via the use of laboratory notebooks and standard operating procedures (SOPs).
- Use material data safety sheets to identify proper storage, handling, and risks associated with chemicals/chemical compounds.
- Detail the process by which experiments are performed in biotechnology, including the application of the scientific method, experimental design, and data analysis.
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