BSC 2427C
Biotechnology Methods II

Course Description:

BSC 2427C Biotechnology Methods II (4) (A.S.) Prerequisite: successful completion of BSC 2010C. This course includes basic concepts and techniques necessary to work effectively in a biotechnology laboratory. Emphasis will be on methods of protein analysis within the context of biotechnology applications. Additional special fees are required.

Course Performance Standards:

At the successful completion of this course, the student should be able to:

1. Demonstrate an understanding of the process of translation in prokaryotic and eukaryotic cells.
2. Extract and purify proteins from various cell types, including recombinant sources.
3. Carry out various chromatography methods to separate and analyze proteins (e.g. ion exchange, sizing, affinity, etc).
4. Perform electrophoretic analysis of various protein samples.
5. Perform enzyme activity assays and determine specific activity.
6. Perform and explain analytical methods using antibodies (e.g. Westerns, ELISA, Immuno-precipitation, etc).
7. Demonstrate an understanding of affinity analysis methods to detect protein/protein interactions.
8. Explain the relationship between protein structure and function.
9. Demonstrate an understanding of amino acid content on the chemical characteristics of a protein.
10. Explain and demonstrate the use of isoelectric point analysis of various proteins.
11. Demonstrate an understanding of regulation of gene expression at the level of translation.
12. Maintain appropriate documentation of experimental work.
13. Perform standard laboratory procedures in a safe and efficient manner.
14. Demonstrate a basic understanding of quality systems (e.g. GMP, GLP, ISO/IEC)

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