

# Protein Characterization Certificate

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## Protein Characterization Certificate REQUIREMENTS

13-15 credits

| Code                                     | Title  | Hours |
|--|--|-------|
| BIOL 1610<br>& BIOL 1615<br>or BTEC 1010 | Principles of Biology I (LS)<br>and Principles of Biology I Lab (LAB)<br>Fundamentals of Biotechnology | 5     |
| CHEM 1210<br>& CHEM 1215                 | Principles of Chemistry I (PS)<br>and Principles of Chemistry I Lab (LAB)                              | 5     |
| BTEC 2020                                | Protein Purification and Analysis  | 3     |
| BTEC 3020                                | Protein Cloning, Expression, and Purification  | 1     |
| BTEC 4020                                | Advanced Protein Characterization  | 1     |

## Completion Requirements

1. Complete all coursework with a C- or higher
2. Cumulative GPA of 2.5 or higher

## Protein Characterization Certificate Program Learning Outcomes

At the successfully completion of this program, students will be able to:

1. Summarize the principal processes involved in protein synthesis and the relationship between protein structure and function.
2. Evaluate and develop methods of recombinant protein production, including molecular cloning, gene expression, and protein purification.
3. Describe and Implement various tools used for protein characterization, such as gel electrophoresis, chromatography, mutagenesis, and enzymatic analyses.