

COLLEGE OF CHEMISTRY COURSE GUIDE (../INDEX.HTML)

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BIOE 111 - FUNCTIONAL BIOMATERIALS DEVELOPMENT AND CHARACTERIZATION (4 UNITS)

(Taken from the UC Berkeley Course Guide (<http://guide.berkeley.edu>))

COURSE OVERVIEW

SUMMARY

This course is intended for upper level engineering undergraduate students interested in the development of novel functional proteins and peptide motifs and characterization of their physical and biological properties using various instrumentation tools in quantitative manners. The emphasis of the class is how to develop novel proteins and peptide motifs, and to characterize their physical and biological functions using various analytical tools in quantitative manners.

PREREQUISITES

CHEM 1A ([chem1a.html](#)) or CHEM 4A ([chem4a.html](#)); BIOE 11 ([bioe11.html](#)) or BIO 1A ([bio1a.html](#)); BIOE 103 ([bioe103.html](#)) or equivalent

Spring Only

TOPICS COVERED

To provide students with basic and extended concepts for the development of the functional proteins and their characterization for various bioengineering and biomedical purposes.

Upon completing the course, the student should be able:

1. To understand the directed evolution processes of functional proteins.
2. To identify the natural protein products from proteomic database.
3. To design various experiments to characterize the new protein products.
4. To develop novel functional proteins and characterize their properties.
5. To understand basic concepts and instrumentation of protein characterization tools.

WORKLOAD

TIME COMMITMENT

3 hours of lecture and 1 hour of discussion per week.

UC Berkeley Course Guide (<http://guide.berkeley.edu>)

COLLEGE OF CHEMISTRY PEER SERVICES

Made by Angela Lee, c/o 2019



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