BCEM403- Learning outcomes

General – BCEM 403 builds on the general learning outcomes of BCEM 401 (the prerequisite course). Students are expected to work safely and effectively together as a team and to record their experimental data in a laboratory notebook, as is done in professional settings.

By the end of this course, successful students will be able to:

1. Search for background references and extract bioinformatic information pertaining to a protein that will be purified in the first part of the course.
2. Purify the protein of interest to homogeneity using classical and methods of purification, detection, and quantification.
3. Write a paper using formatting as specified by a journal selected by the instructor.
4. Describe the importance of protein: protein interactions in biochemistry and apply various biochemical approaches (for example, using antibodies) to detecting these interactions.
5. Know how to apply various affinity chromatography methods to purify recombinant proteins expressed with special affinity tags.
6. Analyze the kinetic parameters and inhibition of an enzyme.
7. Implement spectroscopic techniques and biophysical techniques to characterize proteins and to monitor the binding of ligands to proteins.
8. Design and implement experiments to answer questions about the structure and function of enzymes and proteins.
9. Interpret and communicate the results of biochemical experiments in written reports with clarity and conciseness.