

EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]: State in layman's terms the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

To be successful in biotechnology and biochemical research, one must develop the skills involved in the characterization of biological molecules. It is of particular importance in the drug development process to understand the properties of proteins, one of the most common drug targets. This grant money will be used to bring modern technology and current techniques used in biotechnology and biochemistry to the biochemistry laboratory course (Chem. 441) in the chemistry department at Sonoma State. In this course, students will develop and complete a semester-long research project where they isolate, purify, and characterize a protein from a natural source. Students will use the scientific literature as a guide to develop their own experimental methods to obtain their protein and characterize its properties and function. This will provide students with training not only in modern biochemical techniques and instrumentation, but also in the analytical skills involved in experimental design and troubleshooting. Students will also gain experience in presenting scientific data and conclusions by presenting their projects to the department in the form of short talks and poster presentations at the end of the semester. Overall, this course will provide student's with 'real-world' training, similar to what they will see in industrial and academic research labs outside of a classroom setting.