

EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:

An interdisciplinary course in Drug Discovery will be developed at CSULA and offered to both biology and chemistry students. This class will fill a gap in the present CSULA science curriculum for students who plan to pursue research careers in pharmaceutical or biotechnology industries. The course will examine how medicinal drugs work, how new drugs are discovered and developed, and the emerging role of genomics and proteomics in pharmaceutical research. Chemistry and biology students will work together in an active learning environment, using a specially designed software package to walk through each step in the modern process of drug discovery. Student groups will use the software to visualize 3D interactions between drugs and their target proteins, and will present case studies in class to illustrate major topics. Additional assignments and activities will give students grounding in the process of, and issues involved in, getting a new drug to market. For example, students will put together a proposal for discovering and developing a new drug, and will tour a local pharmaceutical company. Students with a solid scientific background will thus be given a focused introduction to the technical, medical, economic, and ethical issues involved in drug discovery and disease treatment. This class will foster collaboration between faculty and students from two departments, and will encourage and better equip students to pursue successful careers in the biopharmaceutical industry.