

**2015 IGEM Special Allocation Grant Proposal
Cover Sheet**

Proposal Number: (Assigned by Board Office)	Amount Requested: \$25, 000
Name of Institution: Lewis-Clark State College	Name of Industry Partner: N/A
Name of Institution Contact: Dr. Lori Stinson	Name of Industry Contact: N/A
Phone Number: E-mail Address:	Phone Number: E-mail Address:
Title of Proposed Project: Molecular Skills Training for Technicians	
<p>Project Description:</p> <p>This proposal is to fund the purchase of technical equipment necessary for the addition of a laboratory based molecular skills class to the biology and chemistry curriculum at LCSC. Currently, laboratory skills are taught across the curriculum but there is no dedicated class; students could be better trained for jobs in laboratories if they were able to spend more time in a teaching laboratory developing these skills.</p> <p>The items to be purchased include UV visible spectrophotometers for sample analysis, automatic micropipettes and fluorescence adapters to enhance the functionality of our current microscopes. Adequate numbers of UV Visible spectrometers are necessary in order to teach students how to operate these machines which are found in all medical and research laboratory settings. Currently we do not have sufficient machines to accommodate a typical class size; the addition of two more units would help mitigate this problem. Fluorescence microscopy is an important tool used to visualize fluorescently tagged molecules in a wide range of technical applications and serves as a common method for rapid identification of select microorganism in tissue. We do not currently have equipment for fluorescent microscopy within our classrooms. Micropipettes are used in all laboratory settings and it is crucial that any students wishing to work in a laboratory become competent in their use.</p> <p>Coupled with the facilities we already have at LCSC, the equipment requested would allow faculty to effectively prepare students for positions in clinical and research laboratories that require knowledge of both biological and chemical analytical processes. The primary faculty involved, Drs. Jacob Hornby, Eric Stoffregen and Wendy Shuttleworth, would use this equipment to ensure that our graduates are well trained in essential technical lab skills and thus highly competitive upon entering the work force. Graduates would be prepared for positions such as those found in medical facilities, private biotechnology companies and government research laboratories. In addition, students trained in the techniques made possible with this equipment would be at a competitive advantage for internships, research fellowships, and to enter graduate programs in the life or physical sciences.</p> <p>The U.S. Bureau of Labor Statistics (BLS) reported that biology and chemistry technicians would experience a 9-10% increase in job opportunities between 2012 and 2022; this is considered to be as fast as the average among all occupations during that period. Entry level positions require an Associate's degree with the inclusion of laboratory training. More typically, biology technicians need a bachelor's degree in biology or a closely related field. The BLS stresses the need for prospective biological technicians to gain laboratory experience while in school. Likewise, chemistry technicians are usually graduates of applied science technology programs;</p>	

those who are trained to use equipment typically found in laboratories or production facilities have the best opportunities. (www.bls.gov).

In the past several years a number of LCSC graduates have been hired by the Regional Pathology Laboratory (Lewiston), other local clinical labs, State of Idaho testing labs and local research labs. These employers have approached us looking for suitable applicants and indicate there is a local need for workers with this training.

The equipment proposed here would also expand opportunities for student researchers at LCSC. Many, but not all, of our students are able to take advantage of research experiences within their degree program, and this equipment would increase the breadth of research questions students could address.

In addition, the equipment would be used in the laboratory component of existing courses such as Genetics, Microbiology, Cell Biology and Biochemistry, further increasing the exposure to training in these important technical skills to our graduates.

Project Start Date: As soon as possible	Project End Date: June 2015
Total Project Budget: \$25, 000	Annual Project Budget (Fiscal Year) \$25, 000
Authorized Organization Representative Signatures	Date: 2/13/15
Institution: <i>Lori Stinson</i>	
Partner:	

Project Budget

A. Personnel Cost (Faculty, Staff, Visiting Professors, Post-Doctoral Associates, Graduate/Undergraduate Students, Other)

Name/Title	Salary/Rate of Pay	Fringe	\$ Amount Requested
N/A			

