

BUDGET NEEDS ASSESSMENT APPLICATION
Fall 2016

Name of Person Submitting Request:	Lorrie Burnham
Program or Service Area:	Biology
Division:	Science
Date of Last Program Efficacy:	Spring 2013
What rating was given?	Continuation
Amount Requested:	\$2200
Object Code:	5611
Strategic Initiatives Addressed: (See http://www.valleycollege.edu/about-sbvc/office-of-president/college_planning_documents/documents/strategic-plan-report-working-doc-8-25-15-2.pdf)	Student Success Leadership and Professional Development

Note: To facilitate ranking by the committee, please submit separate requests for each general area of budget augmentation needed. Do not request a lump sum to encompass many different areas.

One-Time Ongoing

Does program or service area have an existing budget? Yes No

Are there alternative funding sources? (*for example, Department, Budget, Perkins, Grants, etc.*)

Yes No

If yes, what are they: _____

1. Provide a rationale for your request (Give a detailed explanation of why this budget increase is needed.)

Currently the Department's funds for field trips are marginal especially now that we support requirements for the Biology AS-T degree. Our majors' biology has expanded to a three-course curriculum, in which two of the courses require field biology exposure. There are no funds associated to support these needs. The current request is to support Field Research /Experience trips. These field explorations provide biology students access to habitats and wildlife that otherwise they would not encounter. The training and professional preparation of a biologist cannot depend simply on classroom activities, photographs, or videos. The experiential opportunities that cultivate technical and knowledge skills are to be conducted in a diversity of natural environments such as the San Bernardino National Forest, San Jacinto Mountains, Mojave Desert, Dana Point Tide Pools, and San Pedro Harbor. Field Research/Experience trips afford our students the opportunity to capture, handle, measure, and identify plants and animals. Moreover as a result of these trips, it widens the possibility to conduct long-term studies from which students can benefit as they could present findings in local and/or national conferences, and contribute to local agencies that are in need of natural history information for conservation and land management efforts.

Lastly, the Department's Zoological and Botanical collections (teaching museum) cannot grow when the program has such limitations. Visiting areas outside of the college where organismal collections could be conducted will amplify the diversity of the museum. Our teaching museum is one of the most important resources academically and also serves to demonstrate biodiversity and to motivate our community towards a science career. The teaching museum is small, and it already provides three particular functions. First, it supports training and teaching for Cell and Molecular Biology, Organismal Biology, Evolutionary Ecology, General Biology for non-

majors, and History of Life. Both zoological and botanical collections can be used by the Geology Department as they focus on environmental and majors geology students. Second, the museum is frequently used in student research projects every semester. Third, K-12 and members of the local community regularly tour the collections to gain insight into the academic vision of the College.

Yet, our department is constrained to maintain support of these activities.

2. Indicate how the content of the department/program's latest Efficacy Report and/or current EMP supports this request and how the request is tied to program planning. (*Directly reference the relevant information from your latest Efficacy Report and/or current EMP in your discussion.*)

2013 Program Efficacy, p17-18 Planning, and p18-19 Accomplishments and Strengths. The narratives in these sections suggest challenges and opportunities that face the Biology program in the near term. The ability of the Biology Dept. to meet and take advantage of changing technology are contingent upon having the necessary resources.

3. Indicate any additional information you want the committee to consider (*for example, regulatory information, compliance, updated efficiency, student success data, or planning, etc.*).

Science courses are typically perceived to make gains in the lab, but in the life sciences the lecture and lab spaces are actually outside. A study published in Bioscience (At a Crossroads: The Nature of Natural History in the Twenty-First Century, Apr 2016), reveals that early-career scientists benefit greatly when exposed to "opportunities to gain desired skills" and "opportunities for exposure to natural areas and environments." The same study presented findings that natural history is an integral component of multiple types of opportunities within a scientific framework and that these varied opportunities influence the long-term success of early-career scientists. These implications can also affect non-majors and other science majors students.

4. Indicate any related costs (including any ongoing maintenance or updates) and department/program plans to support those costs.

none

5. What are the consequences of not funding this budget request?

The following courses have field observations, field laboratories, and student research projects as part of their COR: Organismal Biology, Evolutionary Ecology, and General Biology for non-majors. Not providing funding for these vital resources will have broad impacts to the Department's curricular goals and the training towards upper division and professional school. It will have impacts on the success of transfer students entering 4-year universities as they compete with skilled counterparts from other community colleges and home-universities. It will also affect the ability of students to compete in research internships that they wish to participate in across the US and in their future attainment of a science job (technical or non-technical).

Biology faculty are engaged in a number of bio-monitoring projects with the following: San Bernardino National Forest Service, San Bernardino County Special Districts, Pomona College, Cal Poly Pomona, and Rancho Santa Ana Botanical gardens. These affiliations have been developed to enrich students' hands-on training and provide them with job skills. But we need to be able to reach the field sites where the field collaborations take place. Our students need access to opportunities that expand their scientific and knowledge skills and to maintain them stimulated so that they continue doing good scientific work.