

BUDGET NEEDS ASSESSMENT APPLICATION
Fall 2019

Name of Person Submitting Request:	TATIANA VASQUEZ
Program or Service Area:	BIOLOGY
Division:	SCIENCE
Date of Last Program Efficacy:	SPRING 2017
What rating was given?	CONTINUATION
Amount Requested:	\$2500.00
Object Code: Object Codes Object Code Guidelines	4210
State specifically how this budget will be used:	Science journals annual subscription, printed
Strategic Initiatives Addressed: Strategic Directions + Goals	Goal 1, Access Goal 2, Student Success Goal 4, 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.)

The current **request is to support an institutional annual print journal subscription** to the *Journal of Animal Behavior* and *Madroño*. These print journals will supply majors' Biology courses: Cell and Molecular Biology, Organismal Biology, and Evolutionary Ecology. At this time there is no particular allocation to fund these fundamental resources for the professional growth and work readiness of rising biologists. This budget request is for journals that are generally broad in content and are easier to comprehend by entering students. Printed journals at the library are limited and not easily accessible by students, and these titles are not part of the consortium. If a budget is granted for the requested journals, then they will be housed in the Biology laboratory for students to access anytime. Online journal access is an alternative to our tech-savvy students; however, printed journals offer a better opportunity to learn more effectively as novices of content.

Furthermore *Animal Behavior* and *Madroño* will also provide an opportunity for the professional development of FT and PT faculty teaching major's and non-major's courses. Faculty must remain up-to-date with research methods and discoveries to maintain a competitive curriculum in a rapidly changing discipline. Student and faculty training requires nurturing an inquiry-based attitude that exists in primary research.

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.*)

Our Program Efficacy report (pp. 18-19) demonstrates the wide diversity of employment opportunities that our Biology students have today. But they must be ready with various technical skills. Memorizing facts and information may seem to be the core of science, but that isn't the important skill in today's demanding economy. The EMP data for AS degrees (p. 1) demonstrate our commitment to leading the Biology students' academic pathways (Strategic goal 2.6). Nevertheless, their preparation with meaningful skills for transfer and employment are required. The funds available to the department are limited (see Program Efficacy Report, *challenges* p. 20). Our majors' biology has a three-course curriculum to meet transfer degree requirements (Strategic Goals 1.11 and 2.5). Department growth is associated with courses that have laboratory instruction and thus incorporate assignments of scientific thinking and writing. Growth in the number of sections impacts the department greatly at multiple levels (e.g., faculty, classified, supplies).

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

Our SBVC library has an online collection, but it cannot buy individual titles as the set of journals is preselected, and the library cannot pick up the cost of a journal title and have it housed outside the library. The cost of subscribing to *Animal Behavior* is cost prohibitive by our college library.

Efforts to improve STEM education are underway nationwide and they usually involve training of faculty and innovation in classroom activities (National Education Association and Chronicle of Higher Education 2012). Our majors' biology curriculum takes aim at both levels by having research projects and assignments that allow students to practice scientific thinking and perform activities with a discovery-based approach. Many of our students have been involved in external research internships and brought to our attention the significant need to be trained in the use of quality primary research. Medical students have shared the same input as they are tested using primary research. We will continue to strongly encourage SBVC Biology students to participate in research opportunities at institutions funded by the National Science Foundation and the National Institutes of Health, and many other federal and state agencies. But we must train them for their long-term success.

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

No alternative funds available.

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

- Inadequate scientific training for upper division and professional school.
 - Underprepared students for the MCAT (Medical College Admission Test) (test requires to read and reflect on a few primary research articles).
 - Underprepared Biology major students. Deteriorate parity with "native" university students. Students entering upper division courses must be more than familiar with primary research.
- Endanger the success of SBVC students in research internships.
- Lower potential of future job success in a science field (technical or non-technical).