

## EQUIPMENT NEEDS ASSESSMENT APPLICATION #4

Name of Person Submitting Request:	<b>David Bastedo</b>
Program or Service Area:	<b>Biology Department</b>
Division:	<b>Science</b>
When was the last Program Efficacy document completed?	<b>2009</b>
What rating was given?	<b>Expansion</b>
Equipment Requested	<b>8 BioPac Physiology Systems</b>

1. Provide a rationale for your request.

The Biology department over many years has had to sacrifice its equipment budget in order to maintain its supplies for student lab activities. The college has no external funding mechanisms for supplying necessary materials for laboratory activities other than its regular budget. The Biology department no longer has an equipment budget and hasn't had one for more than 10 years. Two previous budget crises caused the department to cut many of its budget categories in order to preserve its supply budget. One key budget category that was lost was capital equipment. Since then the department has had to rely on one-time monies from a variety of sources. Some years have had equipment funds available and some years the department has had to sacrifice and continue at less than an adequate pace due to a lack of equipment and/or replacement. One of the requests for this year's budget needs assessment is to reestablish this category in the department's budget. In the mean time, the department has significant needs related to upgrades and new equipment. This request is for two items. The first is 2 advanced Microscopes with Digital Color Cameras. The cost is \$21,665 without tax or Shipping. The second is for 8 BioPac systems at a cost of \$31,960 without tax or shipping.

2. Indicate how the content of the EMP One-Sheet and latest Program Efficacy Report support this request. How is the request tied to program planning? (*reference the page number(s) where the information can be found on the EMP and Program Efficacy*).

In the EMP, pg 28 the Biology department has established several Program goals related to improvement or new development of courses to serve students. The fulfillment of these goals is only possible with the necessary resources to acquire the appropriate equipment for the laboratory activities. In the description of "what will your program need to do to maintain currency/relevance or an optimal level of service?" (pg 18,19 of 2009 Efficacy document) the department clearly describes funding of equipment and supplies as absolutely essential to its effectiveness. There is no alternative to providing hands on experiences to students in Biology. When adequate equipment is available to students, students have a chance to learn and succeed in their science classes. The laboratory experience is essential to the curriculum. The materials requested here form the very heart of the Biology and A&P curriculum. The BioPac systems are the digital interface between physiological lab activities and the students. Over the last two years the department has begun replacing the older activities with modern physiological experiments using the BioPac systems and laptop computers. The Biopac system monitors real student physiological variables and relays that data to a laptop computer. Once the students receive data

from their experiments, that data can easily be manipulated, evaluated and stored. The department is limited by having only one class set of these BioPac systems and can only utilize them with one lab course at a time. Now that their use has been established, we need to double the number so that these activities can be used in more than one lab course at a time.

3. Indicate if there is additional information you wish the committee to consider (*for example: regulatory information, compliance, updated efficiency and/or student success data or planning etc*).

While some college courses can be taught with little more than an effective instructor and a classroom, biology subjects require lab supplies and equipment. These are not optional. The college has worked with the biology department to provide an ongoing adequate budget for supplies. It is time to recognize the need for a regular equipment budget that will maintain and improve the instructional effectiveness of our lab experiences. Until that occurs, the department will continue to make requests for special one-time funds through Program Review and other one-time resources. The serendipity of one-time funds is a poor way to guarantee an exceptional student experience in biology. The materials requested here are necessary now.

4. Evaluation of related costs (including any ongoing maintenance or updates) and identification of any alternative or ongoing funding sources. (for example Department Budget, VTEA or Perkins)

The department has no alternative funding sources that can provide for these equipment needs.

5. What are the consequences of not funding this equipment?

Without these purchases, the department will offer a less effective education to its students. We evaluate a department's efficacy every 3 years. Part of the efficacy of a department with laboratory courses is the availability of supplies and equipment. These materials are the life blood of the student experience. If equipment is not funded, the instruction may be exemplary, but the materials for them to handle and experiment with will be missing or shared in such large groups that the actual student experience will suffer.