

**EQUIPMENT NEEDS ASSESSMENT APPLICATION**  
**Fall 2019**

Name of Person Submitting Request:	<b>TATIANA VASQUEZ</b>
Program or Service Area:	<b>BIOLOGY</b>
Division:	<b>SCIENCE</b>
Date of Last Program Efficacy:	<b>Spring 2017</b>
What rating was given?	<b>Continuation</b>
Equipment Requested	<b>Spectrophotometers (for three programs)</b>
Amount Requested:	<b>\$3,000</b>
Strategic Initiatives Addressed:	Goal 1, Access <a href="#">Strategic Directions + Goals</a> Goal 2, Student Success

NOTE: To facilitate ranking by the committee, submit separate requests for each item; however, multiple items can be submitted as one request if it is required that the equipment is packaged together.

Replacement X Additional ☐

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

Yes ☐ NO X

If yes, what are they? \_\_\_\_\_

1. Provide a rationale for your request. (Explain, in detail, the need for this equipment.)

This **request is to support the replacement of spectrophotometers** that affect the Major Biol, Non-major Biol programs in the Department. The spectrophotometers are equipment/machines utilized in laboratory experimentation. Currently we have *vintage* spectrophotometers for more than 15 sections of labs of various courses (Bio 205, Bio 206, Bio 100). Parts are no longer available in the market (including e-bay and amazon) because these machines are simply old-fashioned. The manufacturer no longer supports supplies nor maintenance for a machine *launched in 1985 and that is out of circulation*. To support the observed growth (EMP p. 1) in each of the programs aforementioned (Strategic goal 1.9) means that we will need even additional machines to the ones that are requested here. But at this time, we are only requesting replacement of existing old-fashioned equipment.

We are in dire need of replacements since some of the spectrophotometers are no longer working and are unrepairable. For a lab of 28 students, equipment number is currently insufficient, so we cannot provide small group utilization and learning; we must resort to larger student numbers per machine. As a result, students must wait for the use of equipment while their experimental knowledge and data collection gets delayed depending on the speed of use between students. This limits experimental experiences, teaching opportunities, and even creativity in lab experiments. Replacement to recent/modern technology is imperative to the student performance in laboratories. Seven different experiments are dependent on the use of these five machines. If we are to support the community complete AS degrees, CTE certificates in related fields (Strategic goal 1.9), and GE in biology (EMP p. 2; Strategic goals 2.5, 2.6, 2.8.10), then

we must have the resources before they fail. We must also have the ability to repair the equipment too.

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.*)

In the recent academic year, there have been increases in all of the measures of the EMP (p.1) such as FTES, FTEF), duplicated enrollment the number of sections. Growth is associated with courses that have laboratory instruction. Growth in the number of sections impacts the department greatly at multiple levels (e.g., faculty, classified, equipment). These sections belong to each of the areas of the mission of our department (EMP p. 1 description of program/area). Biology major courses and Microbiology directly influence one of the major areas of our programs' purpose which is to support the nursing and professional allied health programs such as pharmacy and physician's assistant, among many others (Program efficacy report pp. 12-13). Failure of equipment could in turn have large negative impacts on supporting a regional growth in allied health and science careers (Program efficacy report pp. 12-13 and p. 19) and the opportunity of growing number of sections (EMP p.1; Strategic goal 1.9) and maintaining an up to date curriculum (Strategic goal 2.8.10) would need to be scaled back. The funds available to the Biology department are limited (see Program Efficacy Report, *challenges* p. 20).

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

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

There is a scarcity of funds available by the college to support the maintenance of this and other lab equipment. The Science division is requesting support for these costs every year.

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

- Limit Major Bio, GE Bio laboratory exercises; negative effect on our COR commitments. Failure in accreditation standards.
- Inadequate scientific training in experimentation, its content and skills.
- Weaken employability and/or career success of allied health students and transfer students.