

**BUDGET NEEDS ASSESSMENT APPLICATION**  
**Fall 2019**

Name of Person Submitting Request:	<b>Dmitriy Kalantarov</b>
Program or Service Area:	<b>Science</b>
Division:	<b>Science</b>
Date of Last Program Efficacy:	<b>NA</b>
What rating was given?	<b>NA</b>
Amount Requested:	<b>\$25,000</b>
Object Code: <a href="#">Object Codes</a> <a href="#">Object Code Guidelines</a>	<b>5640</b>
State specifically how this budget will be used:	<b>To repair and maintain equipment in the division</b>
Strategic Initiatives Addressed: <a href="#">Strategic Directions + Goals</a>	Student Success (Empower Students, student engagement, increase transfer)

*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 programs in the Science Division are equipment-based. Some departments have a small amount of maintenance funds but not enough to complete the recommended maintenance for equipment students use in an instructional laboratory setting. For example, only some of the balances get calibrated every year in the chemistry labs; only a portion of the microscopes get maintained in the biology classes. This equipment is used nearly every day by all sections of chemistry and biology. The chemistry program also has received funds in the past to purchase expensive equipment that is considered integral to a twenty-first century instructional program, but never receives funds for routine maintenance to keep instruments functioning and calibrated. If these instruments, such as the Gas Chromatograph, the infrared spectroscope, the microscopes, are not maintained they will break down and need to be replaced, a more expensive alternative. Not long ago the college has spent over \$14,000 to repair the autoclave in microbiology, an instrument required to prepare lab materials and destroy biological waste. The use of laboratory equipment is required for our courses to articulate to four-year institutions. The Nursing Program has used Perkins funds to purchase patient simulators, but these have limited lifetimes and need service to keep them functional. The Science Division has other access to resources to cover student supplies (predominantly for biology, chemistry, physics, and nursing), a small number of field trips (geography and geology), some software and media funds, but no maintenance budget.

In the chemistry department they have reached the point where the expertise within the department is no longer sufficient to maintain the FTIR (Fourier Transform Infra-Red)

spectroscope used in organic chemistry and general chemistry. The GC (Gas Chromatograph) requires maintenance on the column that separates various constituent parts and is used in both organic chemistry and general chemistry classes.”

The request is ongoing, since service is needed on a regular basis. A rotation between these many departmental needs can be established to ensure consistent and functional equipment for instruction.

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.*)

The departments that have the most equipment are Biology, Chemistry, Physics and Astronomy and Nursing. Each efficacy report and EMP includes support for student success and increasing transfer in majors. Training on related equipment is imperative for successful transfer. However, the challenge we face is being able to maintain the instruments and/or software on a routine basis. In recent years, the Science Division has attempted to plan for such upgrades or maintenance by submitting Needs requests for Science Division maintenance funds. We remain hopeful that the institution will take steps to fund these types of requests, so that our students can continue to be competitive as they search for transfer, research, and career opportunities.

The high cost of the initial acquisition and on-going maintenance of such technology must always be weighed against the technology’s pedagogical value in order to ensure prudent expenditure of our Program’s very limited funding. Even with careful consideration, funding for maintenance has not increased as new equipment has been purchased. Until budget allows proper funding, the department will continue to seek ways to increase the lifespan and efficiency of the equipment we have available and of the lecture/lab consumables without compromising the curriculum.

The Nursing Program has patient simulation; the simulators need routine maintenance.

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

Use of equipment in the science disciplines is required for students to succeed and progress to the next course. Our articulation agreements require use of equipment to accompany the laboratory experience. Even though nursing can purchase patient simulators through Perkins, they do not have funds for maintenance.

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

The funds requested are for ongoing maintenance of equipment. There has not been sufficient or consistent funding of maintenance over the years, so only some equipment can be maintained. Regular maintenance will prolong the performance of equipment and save money in the long term.

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

The equipment will either provide incorrect information or break down. Then money will be needed to repair or replace which will have higher costs than maintenance. For example, the maintenance cost of a Gas Chromatograph/Mass Spectrometer is approximately \$2500. The replacement cost for the instrument is \$65,000. This instrument needs calibration and service once every three years. Without the appropriate funding to do this, the institution has not been a good steward of state funds.

