

# #21

**COMPLETE**

**Collector:** Web Link 1 (Web Link)  
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Page 1: Please review the following:

## Q1

Contact Person:

|               |                                 |
|---------------|---------------------------------|
| Name          | <b>Miriam Simpson</b>           |
| Email Address | <b>miriam.simpson@gcccd.edu</b> |

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## Q2

Department:

Physics

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## Q3

Title of Request:

Physics Budget Increase to Offset Enrollment Growth, Inflation, and Lab Redevelopment

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## Q4

Location of Request:

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## Q5

Type of Request (Select one):

Miscellaneous: All non-operational requests and requests that do not fall under staffing, technology, or facilities requests are considered other requests. For department operational needs, please discuss with your Deans office. Please specify miscellaneous request::  
Budget Augment

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**Q6**

Description of Request: Please provide a description of the supplies, equipment, furniture or other request. When making your request, please be as specific as possible and include information such as make, model, manufacturer, color, quantity, etc.

The Physics department requires a budget increase to support its rapid enrollment growth, the transition of more labs back to in-person modalities, and the escalating costs of equipment required to meet UCSD's stringent physics lab articulation standards. Enrollment has surged from 205 students (48.09 FTES) in 2018 to 405 students (88.32 FTES) in 2024, reflecting consistent post-COVID growth. With more labs transitioning back to in-person delivery, resource demands have intensified. Additionally, maintaining articulation with UCSD necessitates costly equipment upgrades and specialized software, some of which require regular part replacements to remain functional. The current budget of \$6,036 is insufficient to meet these challenges. We propose increasing the annual budget to \$14,000, reflecting the department's growth and evolving resource needs.

Current Budget: \$6,036/year

Proposed Budget: \$14,000/year

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**Q7**

Estimated Cost:

\$8,000/year

Total Cost of Ownership:

The requested budget increase will address:

Lab Maintenance and Supplies: Regular upkeep of equipment and replenishment of consumable materials for in-person and online labs.

Equipment Upgrades: Procurement of specialized equipment, such as PASCO optics systems, Franck-Hertz experiments, and video analysis software, all required for UCSD articulation.

Replacement Parts: Continuous replacement of consumable components for high-tech lab equipment to maintain functionality and compliance with articulation standards.

Accreditation Compliance: Ensuring all lab experiences meet or exceed transfer-level requirements for hands-on, inquiry-based learning.

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**Q8**

Respondent skipped this question

Please attach quote, if available

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**Q9**

Respondent skipped this question

Total Cost of Ownership: Your requested item may incur ongoing expenses. What are the ongoing expenses associated with your request? If there are ongoing expenses, please detail how you plan to support these costs with your existing budget by completing the text boxes below.

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**Q10**

Justification of Request: The justification of the request is a key area to focus on. The ROC encourages you to strengthen your request by providing a robust rationale detailing all relevant criteria. When writing the rationale, keep in mind that those reviewing the justification may not be familiar with your department and needs. Providing detailed information and context can help clarify the need for your request. Please select the applicable criteria(s) and provide the details of how the criteria(s) relate to your request.

**Health and safety,**

**Critical need,**

**Program expansion,**

**Impact on student success and access,**

**Innovation,**

**Equity and Antiracism,**

Provided details::

Health and Safety: Modern and Safe Equipment: Outdated or insufficiently maintained lab equipment increases risks to students and faculty. Expanded in-person labs require additional resources to ensure safety and functionality.

Articulated Equipment Standards: Meeting UCSD's updated requirements involves high-cost, precise equipment that must remain in excellent working condition to avoid safety hazards.

Critical Need: Enrollment Growth: Enrollment has nearly doubled since 2018, and resource demands have grown accordingly, particularly with the return of more labs to in-person formats.

Articulation Pressure: UCSD's updated standards for physics lab articulation necessitate investments in costly, specialized equipment and software, including e/m devices and spectroscopy tools.

Program Expansion and Innovation: Lab Redevelopment: Transitioning more labs back to in-person delivery requires additional funding for updated equipment and consumables.

Leadership in Online Labs: Maintaining leadership in online physics labs while enhancing in-person offerings ensures the program remains at the forefront of accessible and innovative physics education.

Impact on Student Success and Access: Equity and Retention: High-quality labs are critical for student engagement, retention, and equity.

Without adequate funding, underserved students may lose access to the hands-on experiences necessary for success in STEM pathways.

Gateway Course Support: Labs in Physics 130, 201, and 202 are critical for student success and transfer, making their quality essential for achieving equitable outcomes.

Equity and Antiracism: Inclusive Education: Providing high-quality, accessible labs ensures all students, regardless of socioeconomic status, can engage deeply with the curriculum, addressing systemic inequities in STEM education.

## Q11

**Program Goal:** Please identify the program goal(s), as stated in your current annual or comprehensive program review, that this request would help your program achieve. Provide a brief explanation of how it would do so.

### Program Goals Supported

#### Lab Redevelopment:

Supports the transition of more labs back to in-person delivery, ensuring alignment with UCSD standards and providing hands-on, inquiry-based learning experiences.

Enhances online lab capabilities to meet transfer requirements.

#### Sustainability and Growth:

Addresses the strain on resources caused by enrollment growth and expanded lab offerings, ensuring the department can sustain its leadership in physics education.

### Challenges and Context

**Enrollment Growth:** Enrollment increased to 405 students (88.32 FTES) in 2024, doubling the resource demand for labs compared to 2018 levels.

**Return to In-Person Labs:** The transition back to in-person labs requires substantial investments in updated equipment and consumables, compounding resource challenges.

**Articulation with UCSD:** Meeting UCSD's lab requirements necessitates specialized equipment and software, which involve ongoing costs for maintenance and consumables.

**Budget Stagnation:** The department has operated with a static budget despite growing enrollment and resource needs, relying on temporary grants and pre-COVID surplus supplies to bridge the gap.

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