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Page 1: Supplies, Equipment, Furniture, and Other Request Form

Q1 Contact Person:

Name **Keenan Murray**
Email Address **keenan.murray@gcccd.edu**

Q2 Department:

Engineering

Q3 Title of Request:

Engineering Lab Student worker/lab assistant

Q4 Location of Request:

F-301

Q5 Type of Request:

Other: Please specify the non-operational other request::
Student worker

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.

We desperately need help organizing and managing our lab space. Currently much of our lab space occupies a prep room abandoned by Chemistry over a decade ago. There is a nonfunctional refrigerator growing some sort of organism, equipment we can and cannot identify, and a lot of dust and disorder. This space has needed to be updated and maintained for years, but nevertheless has functioned to grow a thriving program. It looks like the messy garage of Microsoft or Apple or Google lore. Unfortunately, although this look has a certain kitschy appeal, it is certainly not the glossy structure that many students have come to expect from those companies now, and, as we have grown to what is now the largest community college program in the county, it has become wholly inadequate to the point of embarrassment. So much so that when the Board and District visited, the tour guide passed off the CADD department as engineering because it looked so much nicer. In addition to this, there is one group that this is disproportionately repelled by this space: women. In an informal survey of random students, women were twice as likely as men to find this room and it's adjacent classroom visually unwelcoming. As the group with the largest gap between college and program representation, this is a huge and disappointing problem.

We need someone to help organize this space and make it more inviting to students as well as faculty and staff. This job would require some specialized skill, but many of our students would qualify to help faculty tackle this project.

Q7 Estimated Cost:

\$17/hour, 20 hours per week

Q8 Please attach quote, if available

Respondent skipped this question

Q9 Total Cost of Ownership:Can this request be maintained with existing funding sources? If not, please explain your plan to maintain this request. Example: potential yearly service agreements, warranties, and replacement costs.

no

Q10 Justification of Request: Please select the applicable criteria and provide the details how the criteria relate to your request.

Health and safety,

Program expansion,

Impact on student success and access,

Provided details::

Health and Safety - This lab space is very cluttered and currently there is no one to maintain it regularly and it's usage is monitored by a large number of full and part time faculty with no consistent protocol. This is not the best use of the space or the equipment for the students or faculty, but currently we have no other way of operating. Program Expansion - As we have literally doubled enrollment, we have gotten no help managing our huge growth in lab offerings which require a plethora of highly specialized equipment. We would like to expand further to offer Environmental Engineering and Construction Management, but without more space, equipment and support we will not be able to even explore these ideas. Impact on student success and access - currently physical access to this lab is limited for safety reasons as we cannot always have someone on hand to supervise/help students use our equipment. In addition, many students find this space in its current state uninviting or even hostile.

Q11 Program Goal: Please identify the program goal(s) this request would help your program achieve and provide a brief explanation of how it would do so.

New Goal 1: Create Maker Space to support labs, student projects, engineering club, and national competition teams

A Maker Space would be a lab space that could be used by all engineering courses as a resource but also be open to students outside of class and the campus community at large. Engineers design and build things, and they need practice in a low-stakes environment. Our current curriculum has by necessity been more theoretical than practical which puts our students at a disadvantage versus four-year students who immediately have access to tools and software as part of their tuition and fees. This space would allow our lectures to use applications and our labs to be much more interesting and diverse. Assuming we had staff for this space, student workers and/or a lab technician, we could also open this space up for collaborations with Graphic Design, Art, CADD, CIS's Mechatronics, or anyone else that has an interest. We could also use it to cheaply 3D print equipment for anyone on the campus.

Goal 2: Increase student success in sophomore-level engineering courses through increased support for ENGR 100 and all other lab classes

As we have grown, it has also become impossible, even with two full time faculty on staff, to staff our classes and then support the instructors with consistent information in both lecture and lab. A person familiar with the equipment could easily bridge this gap a cheaper and safer alternative to the current situation where full time faculty try to assist while not preoccupied with their own classes and the running of the program. For example, the full-time instructor who designed the ENGR 100 hand assembled 30 Arduino kits including wires and components. 30 kits is annoying. Now that we run four sections assembling the kits has become a more than a full day of work for an instructor and a lab technician who does not have the technical background for this kind of work. Using a full time instructor to do this work is not a good use of resources and this is only one of many examples that occur throughout the semester.