

#4

COMPLETE

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Page 1: For Annual Planning/Program Review Requests AND Off-Cycle Requests

Q1 **2023-24**

Technology Plan Year

Q2

Title of Request

MATLAB License Augmentation

Q3

Location of Request

Cuyamaca College

Q4

Department

Engineering

Q5

Contact Person

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

Q6

Description Please provide a brief description of the technology/software or technology project and its core goal(s).

We aim to increase the number of MATLAB licenses from 80 to 170 to support student learning and success. MATLAB, a critical tool taught in ENGR-120, is essential for solving complex equations, controlling hardware, and modeling systems. Expanding the licenses will enable students to continue using MATLAB in other engineering courses, enhancing their expertise and better preparing them for transfer and industry demands. In Fall 2025, we were awarded the license augmentation for the upcoming year and are now requesting a continuation for the following year. This will allow us to collect and analyze data to evaluate the impact and success of the proposal.

Page 2: Proposal Justification

Q7

Please explain how the technology or enhancement supports the strategic plan and impacts students, employees, the college, and/or the district. Which Strategic Plan priority (or priorities) are supported by this request? To access the Strategic Plan, please click [here](#).

Eliminate equity gaps in course success (passing grade in class)

Increase completion and eliminate equity gaps (graduating with a degree/certificate, or transferring)

Q8

How does the request support the above priorities?

MATLAB is a critical software currently taught in ENGR-120, where students use it to solve complex systems of equations and control hardware encountered in engineering. However, we currently have only enough licenses to support ENGR-120. Once students complete the course, they lose access to MATLAB unless they purchase a personal license, which typically costs around \$100. This creates a significant barrier for students who need to continue using MATLAB in other engineering courses to build their expertise and apply their knowledge.

By providing additional MATLAB licenses, we can ensure equitable access to this essential tool across multiple courses, supporting hands-on learning and improving student success. Expanding the licenses removes financial barriers, enabling students to continue using MATLAB without incurring additional costs. This access not only enhances their problem-solving skills but also prepares them for transfer to universities and for success in industry. Furthermore, the augmentation fosters persistence and completion by equipping students with the tools and resources necessary to excel in their academic and professional journeys.

Q9

Who would this impact? Please select all that apply.

**Students,
College**

Q10

What is the number of students or employees impacted per semester?

90

Q11

How would this impact the above group(s)?

Students gain valuable expertise with MATLAB, enhancing their problem-solving skills and improving their performance in engineering courses while preparing them for transfer and professional success. Providing continuous access to MATLAB after ENGR-120 allows students to build proficiency in later courses without incurring personal costs.

For example, a mechanical engineering student could be introduced to MATLAB in Introduction to Engineering & Design, where Arduino and MATLAB could be integrated to provide early exposure. This foundational familiarity would prepare students for the Engineering Computer Applications course, where they explore MATLAB in greater depth. In subsequent courses, such as Statics and Dynamics, students face complex systems of equations that are challenging and error-prone when solved manually. MATLAB offers several efficient methods for solving these problems, enabling students to apply their knowledge effectively while reducing errors. This integrated approach not only enhances their learning experience but also equips them with practical, real-world skills that support their success across multiple courses and beyond.

Q12

No

Does the technology support a state-wide initiative or is it a legal mandate or in support of a legal mandate?

Q13

Respondent skipped this question

If yes, please explain how the technology supports a state-wide initiative or is it a legal mandate or in support of a legal mandate?

Q14

Please be aware that projects, once approved, are typically scheduled 6 months to a year in advance. Consider the consequences if the technology/software is not implemented, upgraded or renewed. What are the consequences if the technology/software is not implemented/upgraded, or renewed? Examples: Security concerns, loss of FTES, mandates, accreditation, etc.

If additional licenses are not secured, students will lose access to MATLAB after ENGR-120, limiting their ability to practice and apply essential skills in other courses. This creates equity gaps and hinders preparation for transfer or industry roles.

Q15

What is your preferred time for implementation?

2024-2025

Q16

Tell us how the data you have supports the implementation of the technology. This can be qualitative or quantitative in the form of surveys, observations, SLO or other assessment data, institutional research data or other reports and data.

Currently, students are introduced to MATLAB in ENGR-120 but lack opportunities to apply their knowledge in subsequent courses unless they purchase the software themselves. Expanding the number of licenses will allow MATLAB to be integrated into more courses, enhancing its value as a learning tool while supporting skill development and reinforcing knowledge across the curriculum.

As granular data on the impact of extended MATLAB usage does not currently exist, we aim to collect and analyze data comparing the success rates of students who use MATLAB in additional courses with those in courses where MATLAB is not implemented. This will help us evaluate the effectiveness of broader MATLAB integration in improving student outcomes.

Q17

2

How critical is this need in terms of supporting curriculum and services?

Q18

Respondent skipped this question

Please attach any supporting data/documentation using the "Upload" button below.

Page 3: COST ANALYSIS

Q19

Software

Is the request for hardware, software, or both?

Q20

Upgrade (replacing outdated technology)

Is the request for new or an upgrade to existing technology?

Q21

Total initial cost of request: This includes hardware and software maintenance, licence, taxes, fees, shipping, storage, etc. Contact Bryan Cooper for assistance.

Expanding to 170 MATLAB licenses per year will cost \$4,420, an increase of \$1,620 from the current cost.

Q22

General Fund

Funding Source:

Q23

Respondent skipped this question

Please attach quote using the "Upload" button below.

Page 4: Grant Funding Source

Q24

Respondent skipped this question

Please specify the grant that will fund the technology you are requesting.

Page 5: Evaluation Plan

Q25

Evaluationi. How do you plan to evaluate the technology after implementation?

We will collect data on how students use MATLAB in engineering courses beyond ENGR-120 and analyze its impact on course success rates. The analysis will identify which courses benefit most from access to MATLAB and its role in student performance.

Page 6: Type of Request

Q26

No

Is this an Off-Cycle Request (e.g., not part of the annual planning/program review process)?

Page 7: Off-Cycle Requests Only

Q27

Respondent skipped this question

What are the exigent circumstances and/or contributing factors that would qualify this request to be eligible for Off-cycle consideration? Please explain why this request cannot wait until the next annual planning cycle.

Page 8: Technology Request Process

Q28

Respondent skipped this question

How can the Technology Request process be improved for next year?

Page 9: Ready to Submit

Q29

Yes

Are you ready to submit your technology request?
