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**COMPLETE**

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Page 1: For Annual Planning/Program Review Requests

**Q1 Technology Plan Year** **2018-2019**

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**Q2 Title of Request**

Support Guided Pathways for Engineering Students

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**Q3 Location of Request**

TBD

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**Q4 Discipline**

Engineering

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**Q5 Department**

Science & Engineering

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**Q6 Contact Person**

Name **Kathryn Nette**  
Email Address **kathryn.nette@gcccd.edu**

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**Q7 Description** Please provide a brief description of the technology/software or technology project and its core goal(s).

The overall goal is to provide engineering with a second classroom since the program has grown to a point where we have nearly 500 engineering majors. It is very important that we support this program, since Grossmont College is trying to start an engineering program that will compete with ours. If this happens the district will likely end up with two mediocre programs, instead of one extraordinary one like we have now. We need to provide a high quality active learning classroom. At this point, we actually have adequate funding for a 32 seat classroom, but we need to provide furniture and one Promethean smart board for use in the room. This technology will allow the development of the latest in active learning to be developed and used for the engineering classes.

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Page 2: Proposal Justification

## Technology Request Form

**Q8** Please explain how the technology or enhancement supports the strategic plan. Include information on how students will be impacted and/or employees or the college or district overall. Consider whether this would be a district-wide implementation. Which Strategic Plan priority (or priorities) are supported by this request? To access the Strategic Plan, please click here.

**Guided Student Pathways**

**Q9** How does the request support the above priorities?

In order to support Guided pathways for our students, we need to have adequate classes available, and the classes should be taught using the latest methodologies possible, which means we are looking at an active learning classroom. Much broad-based research in STEM (and other disciplines) has shown that active-learning is the most effective type of learning for students. A meta-analysis of 225 research papers and published in the Proceedings of the National Academy of Sciences (PNAS) in 2014, provided documentation that "active learning leads to increased performance that would raise average grades by half a letter grade, and that failure rates under traditional lecturing increase by 55% over the rates observed under active learning."

<https://www.pnas.org/content/pnas/111/23/8410.full.pdf>. Unfortunately, the majority of classrooms at Cuyamaca are set up to support old-style "lecture" based instruction, rather than active learning.

**Q10** Who would this impact? Please select all that apply.

**Students,  
College,  
District**

**Q11** How would this impact the above group(s)?

Students would be able to get the best possible classroom instruction, leading to increased success and retention and completion, which would lead to increased funding for the district and college.

**Q12** Does the technology support a state-wide initiative or is it a legal mandate or in support of a legal mandate?

**Yes**

**Q13** 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?

Cuyamaca is one of the 20 guided pathways colleges in the state. This would support our College goal of moving to a guided pathways operation.

**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.

In this case, we are going to not have enough classroom space for our engineering students. With nearly 500 engineering majors, we run the risk of Grossmont college starting a competing program which would severely damage our program.

## Technology Request Form

**Q15** What is the number of students impacted per semester if the technology/software is not implemented, upgraded or renewed?

250

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**Q16** What is your preferred time for implementation?

As soon as available.

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**Q17** 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.

The technology is used to support active learning classrooms that have been shown to be the most effective way of educating students  
<https://www.pnas.org/content/pnas/111/23/8410.full.pdf>

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**Q18** Please attach any supporting data/documentation using the "Upload" button below.

**Respondent skipped this question**

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### Page 3: COST ANALYSIS

**Q19** Is the request for hardware or software?

**Hardware**

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**Q20** Is the request for new or an upgrade to existing technology?

**New (new to the campus)**

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**Q21** Estimated or known total initial cost of request: This includes hardware and software maintenance, licences, taxes, fees, shipping, storage, etc.

Cost of smart boards are approximately \$8300 each including warranty and training. This is based upon our most recent purchase for F606. We anticipate needing one board for this classroom.

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**Q22** Funding Source:

**General Fund**

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**Q23** Please attach quote using the "Upload" button below.

**Respondent skipped this question**

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**Q24** Evaluationi. How do you plan to evaluate the technology after implementation?

We will use the classroom technology to deliver active learning activities and will evaluate those activities to determine if student success rates increase.

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**Q25** Are you ready to submit your technology request?      **Yes**

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