

#30

INCOMPLETE

Collector: Email Invitation 1 (Email)
Started: Thursday, January 11, 2024 5:52:04 AM
Last Modified: Thursday, January 11, 2024 6:25:29 AM
Time Spent: 00:33:25
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Page 1: I. Program Overview and Update

Q1

1. Department(s) Reviewed:

Engineering

Q2

2. Lead Author:

Keenan Murray

Q3

3. Collaborator(s) - list of any person that participated in the preparation of this report:

Dr. Mo

Q4

4. Dean/Manager(s):

Tammi Marshall

Q5

5. Initial Collaboration Date with Manager/Dean:

Enter the initial date you met **01/05/2024**
with your dean to discuss
your program review using
this format: MM/DD/YYYY

Q6

6. Program Update (Required): Please summarize the changes, additions, and achievements that have occurred in your program since the last program review. You can access 2022 program reviews on the program review webpage.

We have successfully hired a full-time faculty member (Carlos Perez) to help manage our course load and develop our program. Carlos and I continue to develop and implement project-based learning in our classrooms that also utilize our Maker Space. We have also expanded our course offerings by successfully running 2 new courses and have submitted to the curriculum committee another new course to meet the needs of mechanical engineering students who aim to transfer to SDSU.

Page 2: II. Assessment and Student Achievement

Q7

7. Did your program complete and submit SLO assessment in the last year? If you are unsure, check the most recent updates on your program's SLO Assessment Updates.

No: Please describe the department's plan to update them: Miram Simpson and I are going to engage the department during SP24 flex week to integrate SLO assessments as part of the natural course of the semester.

Q8

7a. Which SLOs did you assess in the last year? If you did not assess in the last year, please share why, including whether your program is experiencing barriers to assessment or data submission, and/or if your program would benefit from outcomes and assessment support.

Engineering has struggled to maintain our SLO assessment plan. Reflecting on the program's engagement of SLOs, we discuss what SLOs need to be assessed at the beginning of the semester, and as the semester moves forward, we deprioritize SLO assessment as we "can do it later". I, Keenan Murray and department chair, need to integrate SLO assessment as the natural course of our semester. To meet our minimum SLO assessment requirements, we need to assess the following courses this year: ENGR-120, ENGR-200, ENGR-210, ENGR-225, ENGR-261. Two of these courses are new and therefore have not been previously assessed.

Q9

8. Please share any outcomes assessment projects your program has worked on in the last year, including SLOs on Canvas, PLOs by ACP, Equitable Assessment Strategies (innovative collective/common assessments, project-based, work-based learning, student-centered, etc.), or other.

Moving forward, we will work to integrating SLO assessment into our normal semester activities instead of the mindset of "just as needed and when we can".

Q10

Respondent skipped this question

OPTIONAL: You may upload a copy of any assessment-related documents here. If you have an Excel sheet, please convert it to one of the supported files listed below before submission.

Page 3: II. Assessment and Student Achievement

Q11

9. Please discuss any equity gaps in access or success

Based on the race/ethnicity demographic, the engineering program enrollment has improved to reflect the college-wide demographic (within 3%) for the first time! We are glad that our efforts have been fruitful, but there is still more work to be done. The engineering program disproportionately serves students who identify as male. The success rate of men and women are similar, with women slightly outperforming the men. Our enrollment is predominately Hispanic/Latinx, and yet we have a success equity gap in the Hispanic/Latinx group. The Hispanic/Latinx success rate has improved from 69% in SP19 to 79% in SP23, reflecting our program's efforts. For juxtaposition, the White Non-Hispanic group success rate fluctuated between 84-89% during the same period. We also still have success equity gaps in the African-American/Black Non-Hispanic, Asian, and sporadically other minority groups.

Q12

10. What action will the department or discipline take to address these equity gaps? If equity gaps have been reduced or eliminated, please share what the program did to achieve this. If equity gaps still exist, consider the specific steps your department will take to address equity gaps.

There is a correlation between our implementation of project-based and hands-on learning to the closing of our access equity gaps. We want to continue to improve these efforts to further close equity gaps. Additionally, we need to engage students to determine what barriers are preventing their success. Currently, our Introduction to Engineering and Design course has lower success rates compared to other engineering courses, so we will focus our efforts with our intro. course first!

Q13

11. How has this data impacted the goals set in your previous comprehensive program review?

This data reiterates the importance of the goals we have set: 1) Increase student success in sophomore-level engineering courses through support for ENGR-100 and all other lab classes 2) Create a Maker Space to support labs, student projects, engineering club, and national competition teams

Our program efforts have increased enrollment in our courses and removed access equity gaps. Now we need to focus on continued enrollment growth, the gender access equity gap, and success equity gaps. Hence, I will be submitting equipment, technology, supply augmentation, and classified personal requests aimed towards resolving success equity gaps.

Q14

12. Please describe the most significant or impactful ways your program worked across the college to advance the college's vision of equity, excellence and social justice through education over the past year.

I am very proud that the engineering program has been able to close the race/ethnicity access equity gaps!

Q15

13. What challenges is your program still experiencing due to the disruption of operations caused by the pandemic and the need to offer services in various modalities?

Students are expecting a choice between taking courses in-person or remotely. However, we typically only run one section of a course each semester (except our introduction to engineering course), so we either choose between in-person, DE, or HyFlex teaching modalities. The HyFlex provides the best options for our students, but encouraging faculty to teach HyFlex is challenging. Additionally, while we are provided compensation for preparing and running HyFlex courses, the challenges and intricacies of creating/running an excellent HyFlex experience can be daunting.

Q16

Respondent skipped this question

OPTIONAL: Please upload any documentation you would like to include as part of your responses to this section of the program review.

Page 4: II. Assessment and Student Achievement continued

Q17

Yes

11. Does your department offer classes that are approved distance education courses?

Page 5: DE Course Success Rates

Q18

12. If there were differences in success rates for distance education (online) versus in-person sections of program courses in your last comprehensive program review, what has the department done to address these disparities? If online and in-person sections had comparable success rates, please describe what the program did to achieve that.

In the past year, our DE and in-person success rates have been comparable. The On-Campus success rates for fall 2022 and spring 2023 were 72% and 81% while our 100% Online success rates for fall 2022 and spring 2023 were 79% and 80%. I hypothesis this success is a result of our retention of our DE adjuncts providing them the ability to fine-tune their courses and embrace professional development opportunities Cuyamaca provides.

Page 6: III. Previous Goals: Update

Q19

Previous Goal 1:

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

Q20

In Progress - will carry this goal forward into next year

Previous Goal 1:

Page 7: III. Previous Goals: Update continued

Q21

Respondent skipped this question

Please describe the results or explain the reason for deletion/completion of the goal:

Q22

Respondent skipped this question

Do you have another goal to update?

Page 8: III. Previous Goals: Update continued

Q23

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

Link to College Strategic Goal - Which College Strategic Goal does this department goal most directly support? (Check only one)

Q24

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new laptop computers).

We are continuing to build and augment our Maker Space. The Maker Space is now directly used in our Introduction to Engineering and Design course and sophomore-level Statics courses to implement project-based learning. We currently lack support in running and maintaining the Maker Space, with Keenan Murray (Full-time Faculty and Department Chair) running and maintaining the 3D printers. Hence, we are again requesting a lab technician to assist in the Maker Space and our lab courses so faculty can focus on teaching content instead of volunteering their time to lab setup and equipment maintenance.

The faculty are continuing to develop more project-based learning opportunities in sophomore-level engineering courses.

Action Steps

1. Hire new classified position
Engineering does not have a lab technician and simultaneously we are expanding the labs we offer. We need help!
2. Request supply budget augmentation
Engineering has a small supply budget compared to other STEM programs and other engineering programs. With the growth of our enrollment, the broadening of course offerings, and our focus on project-based learning, we need financial backing.
3. Request for equipment – Terco MT3037
Dr. Mo has requested we purchase the Terco MT3037 Universal Testing Machine for the new materials lab course he has been teaching. Details of his rationale will be provided in the request form
4. Request for technology – Raise 3D Pro 2 Plus 3D printer
With our increased use of 3D printers in our curriculum, we are requesting an additional 3D printer to meet our needs
5. Request for technology- MATLAB License Augmentation
We want to provide students with access to MATLAB in engineering courses besides our MATLAB course to improve student success and experience

Q25

What resources, if any, are needed to achieve this goal?
Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

**New classified position,
Technology,
Supplies, equipment, and/or furniture**

Q26

Do you have another goal to update?

Yes

Page 9: III. Previous Goals: Update continued

Q27

1. Previous Goal 2:

Create Maker Space to support labs, student projects, engineering club, and national competition teams

Q28

3. Goal Status

In Progress-will carry this goal forward into next year

Page 10: III. Previous Goals: Update continued

Q29

Please describe the results or explain the reason for deletion/completion of the goal:

Respondent skipped this question

Q30

Do you have another goal to update?

Respondent skipped this question

Page 11: III. Previous Goals: Update (If Applicable) continued

Q31

Link to College Strategic Goal - Which College Strategic Goal does this department goal most directly support?
(Check only one)

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

Q32

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new laptop computers).

We have continued to improve and use the Maker Space for course content. We want to continue these improvements and make the Maker Space accessible to Cuyamaca students, faculty, and ultimately the community.

Action Steps

1. Hire new classified position
Engineering does not have a lab technician and we have labs and a Maker Space to run and maintain. We need help!
2. Request supply budget augmentation
Engineering has a small supply budget compared to other STEM programs and other engineering programs. With the growth of our enrollment, the broadening of course offerings, and our focus on project-based learning, we need financial backing. Additionally, we want to encourage Maker Space use and access for all of Cuyamaca.
3. Request for equipment – Raise 3D Pro 2 Plus 3D printer
With our increased use of 3D printers in our curriculum, we are requesting an additional 3D printer to meet our needs

Q33

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

**New classified position,
Supplies, equipment, and/or furniture**

Q34

Do you have another goal to update?

Yes

Page 12: III. Previous Goals: Update continued

Q35

1. Previous Goal 3:

Partner with CE and the Career Center to get students better connected to their goals

Q36

3. Goal Status

In Progress-will carry this goal forward into next year

Page 13: III. Previous Goals: Update continued

Q37

Please describe the results or explain the reason for deletion/completion of the goal:

Respondent skipped this question

Q38

Respondent skipped this question

Do you have another goal to update?

Page 14: III. Previous Goals: Update continued

Q39

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

Link to College Strategic Goal - Which College Strategic Goal does this department goal most directly support?
(Check only one)

Q40

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new laptop computers).

We are forming an Engineering Industry Advisory Board (IAB) to review our current engineering curriculum focused on transfer to universities. We will use the IAB to also review and provide insight into Engineering Technology/Technician certificates and degrees we aspire to create. These certificates and degrees will provide additional pathways for our engineering students, help meet the needs of industry, and bridge the gap between our current engineering program and CE.

Q41

Respondent skipped this question

What resources, if any, are needed to achieve this goal?
Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Q42

No

Do you have another goal to update?

Page 15: III. Previous Goals: Update continued

Q43

Respondent skipped this question

1. Previous Goal 4:

Q44

Respondent skipped this question

3. Goal Status

Page 16: III. Previous Goals: Update continued

Q45 Respondent skipped this question

Please describe the results or explain the reason for deletion/completion of the goal:

Page 17: III. Previous Goals: Update continued

Q46 Respondent skipped this question

Link to College Strategic Goal - Which College Strategic Goal does this department goal most directly support? (Check only one)

Q47 Respondent skipped this question

Action Steps for the Next Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new laptop computers).

Q48 Respondent skipped this question

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Page 18: IV. New Goals

Q49 No

Would you like to propose any new goal(s)?

Page 19: IV. New Goals continued

Q50 Respondent skipped this question

1. New Goal 1:

Q51 Respondent skipped this question

2. Which College Strategic Goal does this department goal most directly support? (Check only one)

Q52 Respondent skipped this question

3. Please describe how this goal advances the college strategic goal identified above.

Q53 Respondent skipped this question

4. Please indicate how this goal was informed by SLO (student learning outcomes) assessment results, PLO (program learning outcomes) assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Q54 Respondent skipped this question

5. Action Steps for this Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new computer hardware).

Q55 Respondent skipped this question

6. How will this goal be evaluated?

Q56 Respondent skipped this question

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Q57 Respondent skipped this question

Do you have another New Goal?

Page 20: IV. New Goals continued

Q58 Respondent skipped this question

1. New Goal 2:

Q59 Respondent skipped this question

2. Which College Strategic Goal does this department goal most directly support? (Check only one)

Q60 Respondent skipped this question

3. Please describe how this goal advances the college strategic goal(s) identified above.

Q61 Respondent skipped this question

4. Please indicate how this goal was informed by SLO (student learning outcomes) assessment results, PLO (program learning outcomes) assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Q62 Respondent skipped this question

5. Action Steps for this Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new computer hardware).

Q63 Respondent skipped this question

6. How will this goal be evaluated?

Q64 Respondent skipped this question

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Q65 Respondent skipped this question

Do you have another New Goal?

Page 21: IV. New Goals continued

Q66 Respondent skipped this question

1. New Goal 3:

Q67 Respondent skipped this question

2. Which College Strategic Goal does this department goal most directly support? (Check only one)

Q68 Respondent skipped this question

3. Please describe how this goal advances the college strategic goal(s) identified above.

Q69 Respondent skipped this question

4. Please indicate how this goal was informed by SLO (student learning outcomes) assessment results, PLO (program learning outcomes) assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Q70 Respondent skipped this question

5. Action Steps for this Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new computer hardware).

Q71 Respondent skipped this question

6. How will this goal be evaluated?

Q72 Respondent skipped this question

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Q73 Respondent skipped this question

Do you have another New Goal?

Page 22: IV. New Goals continued

Q74 Respondent skipped this question

1. New Goal 4:

Q75 Respondent skipped this question

2. Which College Strategic Goal does this department goal most directly support? (Check only one)

Q76 Respondent skipped this question

3. Please describe how this goal advances the college strategic goal(s) identified above.

Q77

Respondent skipped this question

4. Please indicate how this goal was informed by SLO (student learning outcomes) assessment results, PLO (program learning outcomes) assessment results, student achievement data, or other qualitative or quantitative data (from any source):

Q78

Respondent skipped this question

5. Action Steps for this Year: If you are requesting resources in order to achieve this goal, please list them below as action steps and specify the type of request (e.g., submit technology request for new computer hardware).

Q79

Respondent skipped this question

6. How will this goal be evaluated?

Q80

Respondent skipped this question

What resources, if any, are needed to achieve this goal? Please select all that apply. Links to request forms are included below. All resource requests are due on the program review deadline.

Page 24: Final Check

Q81

Respondent skipped this question

Are you ready to submit your program review? If you would like to go back and review a section, select a section a click "Next."
