

#24

COMPLETE

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Page 1: I. Program Overview and Update

### Q1

I.1 Department(s) Reviewed:

Physics and Astronomy

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### Q2

1.2 Lead Author

Miriam Simpson

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### Q3

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

Scott Stambach, Glenn Thurman, Donna Olsen, David Tibbets

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### Q4

I.4 Dean/Manager:

Kim Dudzik

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**Q5**

I.5 Program Update: Please summarize the changes, additions, and achievements that have occurred in your program since the last program review was submitted. To access your 2020 program review, visit the Program Review webpage.

Continued Course Redesign of PHYC 130/131 (Physics for the Life Sciences)

Scott Stambach has redesigned this course completely AND put made it entirely distance education!. Previously (and currently at most other institutions), this course that primarily serves life and health science pathways has been a pared down version of the engineering series. We have worked hard to collect, invent, adapt, and implement more active and relevant approaches to the course that still convey the same curricular topics but now in a way that better connects to the students we see in this course.

Improving Course Design and Instruction

We have continued our course design strategy by enrolling all new physics instructors in EMTLI.

Ongoing Lab Technician Crisis

As a result of years of sustained growth we have dramatically increased the workload of the single lab technician shared with Physics, Engineering, Astronomy, and Earth Sciences. The current technician is continuously working large amounts of overtime, faculty have been pitching in significantly, and technicians from other disciplines have been helping, and yet still we are reaching limit in terms of courses we can offer, equipment maintenance, and innovation. In addition, this puts at risk the health and safety of our students, faculty, staff, and a large quantity of expensive technical equipment.

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Page 2: II. Assessment and Student Achievement

**Q6**

II.A.1 Is your program following the assessment plan on file with the SLO Coordinator (or Outcome Assessment Committee)?

**Yes, the assessment plan is on file, but work is needed to update the plan**

**Q7**

OPTIONAL: You may upload a copy of your SLO assessment plan for SLOAC here. If you have an Excel sheet, please convert to one of the supported files listed below before submission.

**Respondent skipped this question**

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Page 3: II. Assessment and Student Achievement

**Q8**

You indicated either 1) the department assessment plan is on file, but work is needed to update the plan, or 2) the department has no assessment plan on file and/or the program is not currently following assessment plan II.A.1a Please describe how your program is adjusting (or developing) its assessment plan to ensure all courses are assessed within the assessment 4-cycle:

**Respondent skipped this question**

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Page 4: II. Assessment and Student Achievement

**Q9**

II.A.2 Please provide an analysis of your Student Learning Outcomes (SLOs) findings over the past year and what changes, if any, were made as a result. This may include, for example, changes to departmental practices, program improvements, and/or professional development opportunities over the past year. \*If the department did not complete assessments during the COVID-19 public health crisis, please note that here and provide additional context.

We were unable to properly collect and analyze our SLO data for the pandemic. The modality of our courses changed so dramatically over the shift in instruction the data is hard to compare. For instance, many of our labs became multi week projects.

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Page 5: II. Assessment and Student Achievement

**Q10**

II.B.1. What progress has been made in your program to address the institutional goals set around student success and equity? (2019 Equity Plan) If qualitative or quantitative data is available, please summarize any findings.

In Physics we have carefully hired instructors with a commitment to equity and enrolled all new instructors in EMTLI. We have had a persistent equity gap for our Hispanic students, but this was closed in Spring 2020! We have no equity gaps for our Black students, and we are continuing to work on our equity gaps for Asian students, although there was no gap for this group over the last year (Fall 2019/Spring 2020. More urgently, physics still has underrepresentation for black and Hispanic students as well as women.

Astronomy has few gaps. The primary issue is with Hispanic students, although this is a small gap that is not present every year.

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**Q11**

II.B.2 In light of the goals set in your program review, what are your plans to improve equitable student outcomes (success, retention, persistence, graduation, etc.) in the coming year?

We feel we have made great progress by finding good people and training them as well as focusing on assignments and assessments known to increase equitable outcomes such as project based learning and lower stakes, more frequent testing. We have also implemented a much higher touch, compassionate outlook on students, accepting more late assignments and intervening before major exams and project deadlines.

We will continue to work on our representation issues by looking at our recruiting and pipeline and creating more outreach events.

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Page 6: II. Assessment and Student Achievement

**Q12**

**Yes**

Do you offer distance education (online) courses?  
(excluding emergency remote teaching in 2020)?

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Page 7: II. Assessment and Student Achievement

**Q13**

II.C.1 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.

We do not have data on this yet. We first ran these classes in Fall 2020.

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**Q14**

II.C.2 What mechanisms are in place to ensure regular and effective contact? For resources, see Cuyamaca Guide to Best Practices in Online Teaching

We are using canvas messaging via the gradebook, as well as email and grading comments frequently.

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Page 8: III. Previous Goals: Update

**Q15**

Goal 1:

Lab Updates (PHYC 190/200/210)

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**Q16**

**In Progress - will carry this goal forward into next year**

Goal Status

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Page 9: III. Previous Goals: Update continued

**Q17**

**Respondent skipped this question**

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

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**Q18**

**Respondent skipped this question**

Do you have another goal to update?

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Page 10: III. Previous Goals: Update continued

**Q19**

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).

Revise Lab Manuals  
Implement in classes

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**Q20**

**Yes**

Do you have another goal to update?

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Page 11: III. Previous Goals: Update continued

**Q21**

Goal 2:

Redesign PHYC 130/131 Lecture and Labs

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**Q22**

**In Progress - will carry this goal forward into next year**

Goal Status

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Page 12: III. Previous Goals: Update continued

**Q23**

**Respondent skipped this question**

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

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**Q24**

**Respondent skipped this question**

Do you have another goal to update?

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Page 13: III. Previous Goals: Update continued

**Q25**

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).

Implement PHYC 131 redesign  
Refine the new PHYC 130 and offer it for a second time in Fall  
Advertise these courses to the county  
Gather data to present at conferences

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**Q26**

**Yes**

Do you have another goal to update?

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Page 14: III. Previous Goals: Update continued

**Q27**

Goal 3:

The program has multiple previous goals that have not yet been started due to a variety of factors. These goals include:

- A. Revive Physics 110 with online option
  - B. Astronomy Updates
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**Q28**

**Not Started**

Goal Status

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Page 15: III. Previous Goals: Update continued

**Q29**

**Respondent skipped this question**

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

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**Q30**

**Respondent skipped this question**

Do you have another goal to update?

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Page 16: III. Previous Goals: Update continued

**Q31**

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).

- A1. Update Curriculum including an online option.
  - A2. Design Course
  - A3. Run Course in Fall
  - B1. Attempt to get a better space
  - B2. More lab support from additional technician
  - B3. Investigate hybrid/online courses
- 

**Q32**

**Yes**

Do you have another goal to update?

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Page 17: III. Previous Goals: Update continued

**Q33**

Goal 4:

The program has multiple previous goals that have been completed, including the following:

- A. Align Physics Courses with Grossmont
  - B. Course Design Workshop
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**Q34**

**Completed**

Goal Status

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Page 18: III. Previous Goals: Update continued

**Q35**

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

- A. The new courses have been approved for Fall.
  - B. This project has been completed and merged with EMTLI.
- 
- 

Page 19: III. Previous Goals: Update continued

**Q36**

**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).

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Page 20: IV. New Goals

**Q37**

**No**

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

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Page 21: IV. New Goals continued

**Q38**

**Respondent skipped this question**

New Goal 1:

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**Q39**

**Respondent skipped this question**

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

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**Q40**

Respondent skipped this question

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

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**Q41**

Respondent skipped this question

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

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**Q42**

Respondent skipped this question

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).

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**Q43**

Respondent skipped this question

How will this goal be evaluated?

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**Q44**

Respondent skipped this question

Do you have another new goal?

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Page 22: IV. New Goals continued

**Q45**

Respondent skipped this question

New Goal 2:

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**Q46**

Respondent skipped this question

Which College Strategic Goal does this department goal most directly support?

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**Q47**

Respondent skipped this question

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

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**Q48**

Respondent skipped this question

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

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**Q49**

Respondent skipped this question

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).

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**Q50**

Respondent skipped this question

How will this goal be evaluated?

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**Q51**

Respondent skipped this question

Do you have another new goal?

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Page 23: IV. New Goals continued

**Q52**

Respondent skipped this question

New Goal 3:

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**Q53**

Respondent skipped this question

Which College Strategic Goal does this department goal most directly support?

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**Q54**

Respondent skipped this question

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

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**Q55**

Respondent skipped this question

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

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**Q56**

Respondent skipped this question

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).

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**Q57**

Respondent skipped this question

How will this goal be evaluated?

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**Q58**

Respondent skipped this question

Do you have another new goal?

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Page 24: IV. New Goals continued

**Q59**

Respondent skipped this question

New Goal 4:

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**Q60**

Respondent skipped this question

Which College Strategic Goal does this department goal most directly support?

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**Q61**

Respondent skipped this question

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

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**Q62**

Respondent skipped this question

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

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**Q63**

Respondent skipped this question

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).

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**Q64**

Respondent skipped this question

How will this goal be evaluated?

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Page 25: V. Resources Needed to Achieve Goal(s)

**Q65**

What resources is your program requesting this year to achieve the program's goal(s)?

**Faculty Resource Needs,**

**Classified Resource Needs**

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Page 27: Final Check

**Q66**

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

**I am ready to submit my program review**

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