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OVERVIEW OF PROGRAM REVIEW AND PLANNING FOR INSTRUCTIONAL PROGRAMS

Program Review is about documenting the plans you have for improving student success in your program and sharing that information with the community. Through the review of and reflection on key program elements, program review and planning identifies program strengths as well as strategies necessary to improve the academic discipline, program, or service to support student success. With our new Guided Pathways plan, this review becomes even more crucial for the success of our students and college.

We are using the Strengths, Opportunities, Aspirations, Results (SOAR) strategic planning technique to help us focus on our current strengths and opportunities, create a vision of future aspirations, and consider the results of this approach.

BASIC PROGRAM INFORMATION

Academic Year
2020-2021

Are you completing a comprehensive or annual PRP?
Annual

Department Name
Physics/Engineering

Discipline Name
Engineering (ENGR)

Department Chair Name
Daniel Finkenthal

Division Name
Mathematics, Science and Engineering

Website address for your discipline
https://www2.palomar.edu/pages/physics/

Discipline Mission statement
The Department has not developed an agreed on mission statement for this discipline. This will be a goal for the coming year after we have hired several new faculty. A suitable stand-in is presented here:

Engineering includes the application of science, mathematics, and empirical evidence to create technologies that improve the world we live in. Our mission is to provide students with an outstanding learning experience in which they develop strong analytical, quantitative, and problem solving skills to prepare them for a career in one or more of the various fields engineering. We strive to provide an engaging teaching and learning environment for students of diverse origins, experiences, needs, abilities, and goals. We support and encourage students who intend to transfer as well as students pursuing a technical certificate. We seek educational empowerment in all we do. We provide students with rigorous and comprehensive courses that allow them to perform at a high level while also fostering creativity and excitement about applied science and engineering.

(click here for information on how to create a mission statement)

Does your discipline have at least one degree or certificate associated with it?
Yes

Are any of your programs TOP coded as vocational (CTE/CE)?
No

List all degrees and certificates offered within this discipline.
AS

Please list the names and positions of everyone who helped to complete this document.
Daniel Finkenthal, Department Chair

Use the link to provided to help answer the staffing questions below. This form requires a login and password to access. Please use your Palomar email and password to log in.

Link: Permanent Employees Staff Count

Full-time Faculty (total number of FT faculty in your discipline)
1

Full-time Faculty (FTEF)
.47

Part-time faculty (FTEF)
4.8

Classified and other permanent staff positions that support this discipline
ADA (20%), ISA-IV(50%) for PHYSENGR Department

Additional hourly staff that support this discipline and/or department

PROGRAM INFORMATION

PROGRAM COMPLETIONS

Student success is at the core of what we do in assisting students in achieving their goals.

The Chancellor's Office Vision for Success stresses the importance of Program Completion as a major goal for our students. In addition, transfer and career readiness are key components of Palomar College's mission statement. This year, our funding formula has also changed reflecting this emphasis, providing additional funding as a function of the number of completions.

In this section we will identify a program standard and a stretch goal (what you would like to move toward) for program completions.

The standards represent the lowest number of program completions deemed acceptable by the College. In other words, if you were to notice a drop below the set standard, you would seek further information to examine why this occurred and strategies to increase completions.

In this section we will identify a program standard and a stretch goal (what you would like to move toward) for programs.

List the number of completions for each degree/certificate for the previous year.
3 AA Degrees

Have your program completions Increased, decreased, or stayed the same over the last 5 years?
Stayed the same

What factors have influenced your completion trends?
Since we have been primarily focused on having student transfer successfully we have ignored an opportunity for awarding AS degrees. Most of our ENGR transfer students meet all the requirements for the AS!
Engineering courses are in high demand in North County.

In this section you are asked to consider your programs, their learning outcomes, the annual number of completions, goals for completions and enrollment and efficiency trends.

PROGRAM LEARNING OUTCOMES

Begin this section by reviewing the Program Review reports for programs and courses in Nuventive Improve (TracDat). All active course and program learning outcomes should be systematically assessed over a 3-year cycle. First, look at program learning outcomes.

- **Program** = Leads to a degree or certificate
- **Discipline** = A group of courses within a discipline

*Programs will be able to complete program completion and outcome questions.

How well do your program's learning outcomes communicate the scope and depth of the degree/certificate offered?
Poorly at this time. Our SLO's have been carried over from previous instructor who left the program. Last year we hired new instructor and he has been tasked with updating SLO's.

How do they align with employer and transfer expectations?
Not well at the moment. They will be improved in coming year.

Describe your program's plan for assessing program learning outcomes.
Last year we have conducted SLO assessments on all our courses since none had been done before. We are now on a three-year assessment cycle plan in which the evaluation, assessment, and review of our courses will be staggered. We communicate regularly with faculty and transfer staff at other colleges and universities. We maintain contact with many of our students after they transfer.

Summarize the major findings of your program outcomes assessments.
Students met the outcomes to our satisfaction. The outcomes themselves are in need of update.

Program Information Summary

Consider your program outcome assessments, completions, and enrollment/efficiency trends, as well as other internal and external factors.

How have these factors contributed to the success of your program(s)?
Our efficiency is very high, and courses are in much demand.

How have these factors presented challenges for your program(s)?
The program is stressed and has an over-reliance on part-time faculty.

The Chancellor's Office Vision for Success stresses the importance of reducing equity gaps through faster improvements of underrepresented groups.

ACCJC also requires that colleges establish institutional and program level standards in the area of success rates. These standards represent the lowest success rate deemed acceptable by the College. In other words, if you were to notice a drop below the rate, you would seek further information to examine why the drop occurred and strategies to address the rate.

Click on this link to review the course success rates (A, B, C, or Credit) for your discipline.

In this section we will identify a course success rate standards and a stretch goal (what you would like to move toward) for programs.

Course Success Rates by gender, age, ethnicity, special population, location, and modality (You can access the Student Equity Plan on the SSEC website https://www2.palomar.edu/pages/ssec/)

COURSE INFORMATION

COURSE SUCCESS AND RETENTION

What is your program's standard for Discipline COURSE Success Rate?
70.0%

Why did you choose this standard?
We chose the College standard coupled with the level of difficulty of the curriculum.

What is your stretch goal for course success rates?
75.0%

How did you decide upon the goal?
It is important to make careers in engineering available to the community we serve, especially to groups that have been under-represented in the various engineering fields.
We believe that the current enthusiasm for promoting STEM and the continued student support services being offered by the College (STEM center, MATH center, etc.) should allow us to meet this target.

COURSE LEARNING OUTCOMES

How have you improved course-level assessment methods since the last PRP?
Last year we completed SLO assessment for ALL our courses.

Summarize the major findings of your course outcomes assessments.
Students are able to successfully pass the course assessments with success rates above 71%. However, the CORs and the SLOs are out of date and need to be revised immediately.

This section is intentionally blank for annual PRPs. Please click "Next" to continue.

This section is intentionally blank for annual PRPs. Please click "Next" to continue.

CAREER AND LABOR MARKET DATA

The Chancellor's Office Vision for Success stresses the importance of increasing the percent of exiting students who report being employed in their field of study. It is important for us to consider how ***all*** of our programs connect to future careers.

Go to this website https://www.onetonline.org/ and enter your discipline in the bubble on the top right for ideas about potential occupations. Click on an example to see more detail.

What kinds of careers are available for people who complete your programs (and/or transfer)? (Refer to link above) Are there any new or emerging careers and if so how would the new or emerging careers impact your future planning?
Folks that achieve engineering degrees are likely to find employment in a field of engineering. This includes:
Mechanical Engineering
Electrical Engineering
Civil Engineering
Chemical Engineering
Materials Engineering
Aerospace Engineering
Nuclear Engineering

What are the associated knowledge, skills, abilities (KSA's) needed for the occupations listed above? (click examples in the link above to get ideas)
KNOWLEDGE
-Physics
-Engineering
-Scientific Computing
-Technology
-Computer and Electronics
-Production and Processing
-Mathematics
-Design
-Fabrication
SKILLS
-Reading Comprehension
-Critical Thinking
-Troubleshooting
-Writing
-Complex Problem Solving
-Active Listening
-Active Learning
-Speaking
-Judgement and Decision Making
-Monitoring
-Coordination
-Repairing
-Equipment Maintenance
ABILITIES
-Inductive Reasoning
-Near Vision
-Oral Comprehension
-Deductive Reasoning
-Written Comprehension
-Information Ordering
-Problem Sensitivity

How does your program help students build these KSA's?
Through a combination of lecture, lab exercises, reading assignments, projects, and internships. We believe that our courses and programs encourage students to acquire and/or enhance the KSA's listed above. For example, our lab courses students to work as a team on labs and semester projects. These projects reinforce the students' knowledge in engineering, physics, mathematics,computing, technology, design, and fabrication.

Work Based Learning

Applied and work-based learning (WBL) allows students to apply classroom content in professional settings while gaining real-word experience. WBL exists on a continuum that reflects the progress of experiences from awareness-building to training. Students often cycle back through the continuum many times throughout college and throughout their career. Faculty play a critical role in ensuring these experiences are embedded into curriculum and support learning.

Have you incorporated work based learning (work experience, internships, and/or service learning) into your program?
No

Do you want more information about or need assistance integrating work-based learning into your program?
Yes

Please list any questions and describe what you need to integrate work-based learning.
How do we get started!!

How do you engage with the community to keep them apprised of opportunities in your program?
We are weak on this. We do participate in public service events and showcase our student projects. We give physics demonstrations at local middle schools and reach out to high-school teachers to recruit for the Promise program.

Program Goals

In the previous sections, you identified opportunities for improvement. Using these opportunities, develop 3-year SMART goals for your department. Goals should be Specific, Measurable, Attainable, Relevant, Time-Specific. Ensure your goals align with the mission of your department and/or the College's strategic plan.

Please list all discipline goals for this three-year planning cycle. Click here for previous PRPs and goal information.

Goals

Goal 1

Brief Description
Hire a full-time faculty lead

Is this a new or existing goal?
Existing

Goal Status
Completed

How will you complete this goal?
Done!

Outcome(s) expected (qualitative/quantitative)
Successful hire

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?
This is required to achieve our mission.

Expected Goal Completion Date
6/30/2019

Goal 2

Brief Description
Revise Curriculum

Is this a new or existing goal?
Existing

Goal Status
Ongoing

How will you complete this goal?
By allotting time and resources

Outcome(s) expected (qualitative/quantitative)
Revised curriculum and COR that articulates across the state and country.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?
This is an essential requirement to satisfy our mission.

Expected Goal Completion Date
5/31/2021

Goal 3

Brief Description
Create Engineering Technician Certificate

Goal Status
Ongoing

Is this a new or existing goal?
Existing

How will you complete this goal?
It's all laid out. We need to get it through the curriculum committee

Outcome(s) expected (qualitative/quantitative)
We will be able to offer certificate

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?
This provides opportunities for careers in STEM and serves community needs.

Expected Goal Completion Date
12/17/2021

Goal 4

Brief Description
Update all Student Learning Outcomes

Is this a new or existing goal?
New

How will you complete this goal?
Assign this task to new hire, and divide up the work between various discipline experts.

Outcome(s) expected (qualitative/quantitative)
Align curriculum with SLO's and expectations. Improve student success.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?
Meaningful SLO's are essential to student transfer and success.

Expected Goal Completion Date
12/17/2021

RESOURCES

Congratulations! You are nearing completion. In this section, you will consider the resources you need to implement your three-year program review plan and/or address any findings from your assessment of your discipline.

The section is organized into the following four parts:

PART 1: Staffing Needs (Faculty and Additional Staff)

PART 2: Budget Review

PART 3: Technology and Facilities Needs

PART 4: One Time Request for Other Needs (NonTechnology Equipment, Supplies, Operating Expenses, Travel)

PART 1: STAFFING NEEDS

Requests for faculty will follow the prioritization process currently in place in IPC, and the IPC SubCommittee. Requests for new staff positions will be prioritized at the division level and reviewed at Exec.

Are you requesting additional full-time faculty?
No

NOTE: If you are requesting full-time faculty, you must go back to the Labor Market section of the form to complete that section. It is required when requesting additional faculty positions.

Are you requesting new Classified, CAST or AA positions?
No

PART 2: BUDGET REVIEW

Review your Budget/Expenditure reports for 2018, 2019, 2020. Consider your three-year PRP plan.

Click on the link below to access directions to the *Available Budget Report* to complete this section.

How to Request the Available Budget Report

Reflecting on your three-year PRP plan, are there any budget considerations you would like your dean/supervisor to be aware of for the upcoming year?
No

NOTE: PARTS 3 and 4 – TECHNOLOGY, FACILITIES AND OTHER NEEDS

This year the College is implementing two new processes related to resource needs coming from the PRP process.

1. One-Time Fund Requests. The college is implementing a process for prioritizing and allocating funds for one-time needs/requests tied to Program Review and Planning. Prioritization will take place through participatory governance in planning councils and the Budget Committee. Then, a recommendation will be made to Exec for funding of request utilizing various funding sources.

   For more information about funding sources available, see IELM BLOCK GRANT, LOTTERY, PERKINS AND STRONG WORKFORCE GUIDELINES.

   Consider submitting one-time requests only if you have verified that you cannot fund the request using your general discretionary funds or other funds.

2. Technology and Facilities Review. From now on, ALL requests for technology will go through an institutional review process. If you request technology here, you will see a description of the process below.

PART 3: TECHNOLOGY AND FACILITIES NEEDS

Will you be requesting any technology (hardware/software) this upcoming year?
No

Do you have resource needs that require physical space or modification to physical space?
No

PART 4: OTHER ONE-TIME NEEDS

For more information about funding sources available, see IELM BLOCK GRANT, LOTTERY, PERKINS AND STRONG WORKFORCE GUIDELINES. Please check with your department chair on the availability for this cycle.

Do you have one-time requests for other items (e.g., Non-Technology Equipment, Supplies, Operating Expenses, Travel) that your budget or other funding sources will NOT cover?
No

I confirm that the Program Review is complete and ready to be submitted.
Yes

Enter your email address to receive a copy of the PRP to keep for your records.
dfinkenthal@palomar.edu

Review

Chair Review

Chair Comments
The Engineering Program is becoming an increasingly important educational opportunity for students in North County. This is especially true given the growing hi-tech industries in the area, the newly formed CSUSM Engineering School which will depend on our students. Furthermore, our department's focus on equity has made careers in engineering much more available traditionally under-represented communities in the Palomar District.
Unfortunately our program is under great stress. We do not have proper facilities or equipment to offer modern laboratory experiences that students need to be competitive in the programs the seek to transfer to. We have an over-reliance on adjunct faculty which limits the human resources available to do essential curriculum updates.
I will look to the college leadership, including the Board of Trustees, to decide how important the Engineering Program and whether it deserves appropriate resources and prioritization.

Chair Name
Daniel Finkenthal

Chair Sign Date
11/5/2020

Dean Review

Strengths and successes of the discipline as evidenced by the data and analysis:

Areas of Concern, if any:

Recommendations for improvement:

Dean Name

Dean Sign Date

IPC Review

Strengths and successes of the discipline as evidenced by the data and analysis:

Areas of Concern, if any:

Recommendations for improvement:

IPC Reviewer(s)

IPC Review Date

Vice President Review

Strengths and successes of the discipline as evidenced by the data and analysis:

Areas of Concern, if any:

Recommendations for improvement:

Vice President Name

Vice President Sign Date