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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

Design and Manufacturing Technologies

Discipline Name

Industrial Technology (IT)

Department Chair Name

Rita Campo Griggs

Division Name

Career, Technical and Extended Education

Website address for your discipline<https://www2.palomar.edu/pages/ti/industrial-technology/>**Discipline Mission statement**

In direct alignment with Palomar College's mission statement, the Industrial Technology Department is committed and focused on being the leading provider of education to influence positive change and excellence in the technical, mechanical, electrical, and industrial machining disciplines. We celebrate diversity in cultures, beliefs, abilities and needs. We foster a culture of integrity, professional practices, ethical behavior, environmental responsibility and global sustainability. Our instructors will educate, nurture, and inspire our creative-minded drafting and design students immersing them in a culture of professional practices designed to evoke passion and inspiration in the pursuit of their professional goals. Our curriculum is inclusive of individuals pursuing educational enrichment, career and technical training and re-training, certificates of achievement, associate degrees, and transfer-readiness to public schools, private schools and universities. We equip students with the skills and confidence necessary to become engaging leaders of change in society while living respectfully and responsibly in a global society.

([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)?

Yes

List all degrees and certificates offered within this discipline.

CAD/CAM Design and Manufacturing AS Degree

CAD/CAM Design and Manufacturing Certificate

Please list the names and positions of everyone who helped to complete this document.

Michael Wright - Assistant Professor

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)

1

Part-time faculty (FTEF)

0

Classified and other permanent staff positions that support this discipline

Yesenia Gamble Zermeno, shared division ADA

1/7th of 100% of 12 months

Additional hourly staff that support this discipline and/or department

None

PROGRAM INFORMATION

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?

Our outcomes were based on advisory committee recommendations, COE, and San Diego Workforce Partnership Labor Market Analysis for Advanced Manufacturing and Machining, along with site visits and interviews from area machining and manufacturing facilities.

How do they align with employer and transfer expectations?

We are confident that our program learning outcomes are directly aligned with employer expectations. After I remodeled our program, we had an industry partners meeting and presented our new programs. They were all very excited, and the feedback was extremely positive. They did however make several suggestions, which we will be implemented in our next round of revisions.

Describe your program's plan for assessing program learning outcomes.

Students will demonstrate techniques on a per-project basis. As students complete each project they will be given an opportunity to correct any mistakes or missing data.

The second way to assess our program learning outcomes is to keep track of student success rates and degree/certificate awards. This data is going to be skewed due to our current COVID situation. All our courses are not able to be offered this semester, nor will they be offered next semester due to several factors. We are not able to offer some of our new courses in our certificates until we can be back on campus. Most of these courses require industrial equipment that is in the machine shop, they are totally hands-on, and only a couple are being offered Spring semester.

Summarize the major findings of your program outcomes assessments.

I believe our program assessments are now relevant and current. They are aligned with our mission statement, our Advisory Committee's recommendations, our industry partners, the Director of Employer Engagement for Advanced Manufacturing, and university level transfer agreements. We will have a better understanding once we have had a chance to run our entire programs for at least two years.

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.

CAD/CAM Design and Manufacturing certificate of achievement = 0 This certificate has been deactivated and new ones are in place

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?

Lack of course options, also lack of proper catalog listing, covid19 restrictions have cut classes and enrollment

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)?

This is a new program with no data yet

How have these factors presented challenges for your program(s)?

This is a new program with no data yet

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?

85.0%

Why did you choose this standard?

Based on 2017-2018 Data which was 86%

What is your stretch goal for course success rates?

90.0%

How did you decide upon the goal?

New program courses will offer students more interactive projects keeping them engaged

COURSE LEARNING OUTCOMES

How have you improved course-level assessment methods since the last PRP?

I have revamped almost everything in our Program. We “sunsetting” all the old course outcomes and created new, relevant outcomes to align with the new objectives, content, and focus of the courses. We feel it is a huge improvement over what we had. We also took out all inappropriate language/wording with the help of Katy Farrell and Wendy Nelson. We are now most current in this area.

Summarize the major findings of your course outcomes assessments.

To summarize, all our old outcomes assessments were terrible. They were worded incorrectly and really didn't say much of anything. They said we exceeded the 70% institution goal. This really doesn't say anything useful. The next cycle of assessments should be more telling.

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

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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.

The following websites are for CTE related data:

- [Centers of Excellence](#) (many other data resources besides supply and demand) Password: GetLMI
- [LaunchBoard](#)
- [LaunchBoard Resource Library](#)
- [Chancellor's Office Data Mart](#)
- [Career Coach-San Diego Workforce Partnership](#)
- [EDD Labor Market Info](#)
- [Career One Stop](#)

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?

Machinist

Machine Operator

CNC Machinist

CNC Programmer

Quality Control Inspector

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:

Design — Knowledge of design techniques, tools, and principles involved in the production of precision technical plans, blueprints, drawings, and models.

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Physics — Knowledge, and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic, and subatomic structures and processes.

Computers and Electronics — Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Production and Processing — Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.

Education and Training — Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.

Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Skills:

Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Mathematics — Using mathematics to solve problems.

Reading Comprehension — Understanding written sentences and paragraphs in work related documents.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Speaking — Talking to others to convey information effectively.

Coordination — Adjusting actions in relation to others' actions.

Instructing — Teaching others how to do something.

Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most

appropriate one.

Monitoring — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Operations Analysis — Analyzing needs and product requirements to create a design.

Social Perceptiveness — Being aware of others' reactions and understanding why they react as they do.

Writing — Communicating effectively in writing as appropriate for the needs of the audience.

Abilities:

Near Vision — The ability to see details at close range (within a few feet of the observer).

Mathematical Reasoning — The ability to choose the right mathematical methods or formulas to solve a problem.

Visualization — The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.

Fluency of Ideas — The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).

Oral Comprehension — The ability to listen to and understand information and ideas presented through spoken words and sentences.

Oral Expression — The ability to communicate information and ideas in speaking so others will understand.

Originality — The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.

Selective Attention — The ability to concentrate on a task over a period of time without being distracted.

Speech Clarity — The ability to speak clearly so others can understand you.

Speech Recognition — The ability to identify and understand the speech of another person.

Written Expression — The ability to communicate information and ideas in writing so others will understand.

Deductive Reasoning — The ability to apply general rules to specific problems to produce answers that make sense.

Inductive Reasoning — The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).

Problem Sensitivity — The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Written Comprehension — The ability to read and understand information and ideas presented in writing.

Category Flexibility — The ability to generate or use different sets of rules for combining or grouping things in different ways.

Finger Dexterity — The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.

Flexibility of Closure — The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.

Information Ordering — The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations)

Number Facility — The ability to add, subtract, multiply, or divide quickly and correctly.

Visual Color Discrimination — The ability to match or detect differences between colors, including shades of color and brightness

How does your program help students build these KSA's?

Every one of our classes is inclusive of these KSA's. Our curriculum emphasizes all of these. Our students are with us 6 hours per week per course learning these skills. What we do is hands-on. As instructors, we give them knowledge during the lecture. During this lecture, they are sitting in front of their computers or workbenches doing what we ask them to do on the computer. We can see immediately what is happening. If someone is lost, they don't have to tell us, we can see it. We get them back on track immediately and then proceed with the lesson. Our lab time is spent learning and building these skills over and over until they get it. This builds their ability to perform. Some students have a lot of ability when they start class, most students leave with way more ability than they had coming into the class. Our Programs reflect the exact knowledge represented above. Our Advisors let us know what is needed in our classes, what is obsolete, and what is changing. As instructors, we educate ourselves by going to conferences and doing professional development that pertains to our Programs.

Work Based Learning

Applied and work-based learning (WBL) allows students to apply classroom content in professional settings while gaining real-world 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?

No

How do you engage with the community to keep them apprised of opportunities in your program?

Our primary engagement with the community comes from our Advisory Committee meetings. We have spoken with our Advisors about becoming more engaged with the community. The problem is that we do not have enough time in the week to do everything. Since we changed our AS degrees and certificates, we need new marketing material. We have already found that we need to change some of the things we thought would work, but now know they will not work. We are going to have to make these changes before spending money or printed material. What we are doing is updating our website. We just gave all the new information on our Program to the webmaster. We also built tables of all information laid out by semesters for students to easily access to put on the site. We need new pictures of students with new computers and machinery. One person commented on how old our computers and monitors looked on our website. We have gone to several Career Fairs until Covid hit. We have attended Manufacturing Zoom conferences. We have met with an AutoDesk representative to discuss more exposure for the school. We work closely with Bruce Reaves, who is a Job Developer/Case Manager here at Palomar. We articulate with local High Schools. I will be doing more and I am working on a few other ideas.

What is the regional three-year projected occupational growth for your program(s)?

Between 2018 and 2023, Machining and CNC Occupations are projected to increase by 245 jobs or four percent. Employers in San Diego County will need to hire 769 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example.

<http://www.coeccc.net/Search.aspx?id=2622>

What is being done at the program level to assist students with job placement and workforce preparedness?

I stay in contact with many local Machine / Manufacturing shops and always post their employment ads in the classroom, I also work closely with Bruce Reeves with helping students prepare resumes and practice employment interviews.

When was your program's last advisory meeting held? What significant information was learned from that meeting?

Last advisory committee meeting was cancelled due to COVID and has not been rescheduled yet, but will be in November 2020

What are the San Diego County/Imperial County Job Openings?

Between 2010 and 2018, there was an average of 543 online job postings per year for Machining and CNC Occupations in San Diego County. Each year, 65 percent of these online job postings were for Machinists

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**

Offer a full Machining program at Palomar

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

With the support of Palomar, I will build new program, add new equipment to keep in pace with the current industry, and also offer new courses to provide students with other skills needed in the Machining Industry.

Outcome(s) expected (qualitative/quantitative)

To have a full Machining program offering students an AS Degree (24 Credits) in Machining Technology
In a new facility with additional equipment and adjunct instructors to assist in all the new course offerings

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?

This aligns with Palomar's strategic plan of focusing on Career and Technical education to provide students with an education to obtain a career in a Middle Income wage position

Expected Goal Completion Date

1/15/2021

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?

Yes

Facilities Requests

Facility Request 1

What are you requesting?

What discipline PRP plan goal/objective does this request align with?

What Strategic Plan 2022 Goal/Objective does this request align with?

Provide a detailed description of the facilities item or space requested. What is it, and why do you need it? Please be as descriptive as possible. Include in your description how the requested item aligns with your discipline's PRP goals, analysis of PRP data, SLO/SAOs.

Is there an associated cost with this request?

No

What impacts will this request have on the facilities/institution (e.g., water/electrical/ADA compliance)?

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.

mwright1@palomar.edu

Review

Chair Review

Chair Comments

Recommendations:

Goals: Consider adding additional goals. When writing your goals be specific, and include a way to measure the goal outcome. Additional ideas for goals; marketing the program, new location, and alignment with industry.

Consider revising personal pronouns and references.

Chair Name

Rita Campo Griggs

Chair Sign Date

10/29/2020

Dean Review

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

I agree with the chair's comments.

We do need to change the year of this report of the first page to represent 2020-2021.

Areas of Concern, if any:

This program needs a new space located by drafting, and welding. It should be part of an Industrial Automation space. I don't see the facility request completed but the box is checked YES.

Recommendations for improvement:

Dean Name

Margie Fritch

Dean Sign Date

11/3/2020

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:

revamping of program including rewriting of SLOs and PLOs and strong ties to industry

Areas of Concern, if any:

1. no WBL built in to curriculum or program? (both WBL questions marked NO -- but other comments suggest that there may be some?)
2. machining program space -- has this been identified? (relevant question marked YES but no info provided)

Recommendations for improvement:

1. work with dean and Instruction Office to ensure that catalog listing for program and associated classes are correct and in place.
2. discuss WBL and Career Continuum with Nichol Roe
3. set up advisory committee meeting online with ZOOM -- no need to wait until next November

Vice President Name

Shayla Sivert

Vice President Sign Date

1/1/2021