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OVERVIEW OF PROGRAM REVIEW AND PLANNING FOR INSTRUCTIONAL PROGRAMS

Program Review and Planning is about evaluating and assessing programs and documenting plans for improving student success rates. Through review of and reflection on key program elements, Program Review and Planning identifies program strengths and strategies necessary to improve the academic discipline, program, and/or services to support student success.

The College also uses Program Review and Planning as the conduit to request resources (human, technology, facilities and funding) to further help improve and support programs.

BASIC PROGRAM INFORMATION

Academic Year

2021-2022

Are you completing a comprehensive or annual PRP?

Annual

Division Name

Career, Technical and Extended Education

Department Name

Design and Manufacturing Technologies

Department Chair Name

Co-Chairs: Anita R. Talone & Rita Campo Griggs

Discipline Name

Drafting Technology (DT)

Department Chair email

rcampogriggs@palomar.edu

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

Anita R. Talone - Full-Time Faculty

Arthur Gerwig - Full-Time Faculty

Website address for your discipline

<https://www2.palomar.edu/pages/drafting/>

Discipline Mission statement

In direct alignment with Palomar College's mission statement, the Drafting 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 drafting 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, knowledge, and self-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.

Mechanical Engineering Drafting and Design Technology, Associates Degree and Certificate of Achievement

Drafting and Design CADD/CAM Technology, Associates Degree and Certificate of Achievement

Electrical Engineering Drafting and Design Technology, Associates Degree and Certificate of Achievement

*AutoCAD Drafting and Design Technician, Certificate of Achievement

*SolidWorks Drafting and Design Technician, Certificate of Achievement

*Creo Drafting and Design Technician, Certificate of Achievement

*Currently in Curriculum to drop the word "Technician" from title.

BASIC PROGRAM INFORMATION: FACULTY AND STAFFING RESOURCES

In this section, you will identify how many faculty and staff support your discipline's programs. This information is considered when you request permanent staff and faculty hires. It is also useful as you evaluate your program and the human resources and talent you have to support our students.

To help you answer questions in this section, you will need the two links below. An arrow will appear in the spreadsheet pointing to the data you will enter.

1) [Permanent Faculty and Staff Count](#)

2) [FTEF LINK](#)

How many permanent or full-time faculty support your discipline (program)?

2 FT Associate Professors - Anita R. Talone and Arthur Gerwig

For this past fall semester, what was your Full-time FTEF assigned to teach classes?

195.24

For this past fall semester, what was your Part-time FTEF assigned to teach classes?

222.77

List the classified and other permanent staff positions that support this discipline.

ADA Michelle Tucker shared among 3 departments

List additional hourly staff that support this discipline and/or department

NONE

PROGRAM INFORMATION

In this section, you are asked to consider and evaluate your programs, including their program 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?

We are extremely confident that our learning outcomes now align directly with industry. This has not been the case for many years in the Drafting Program. We are very proud (and exhausted) of all the work we have done to make this happen. Our Programs are always a work in progress, because our industry and software is always evolving and changing. Each of our program's learning outcomes, as well as every course's learning outcomes we offer were either sunsetted, updated, or newly created for the school year 2021-2022. Over the summer of 2021 course and program outcomes were revisited, and again, edited for the coming 2022-2023 school year. We are very confident that our program's learning outcomes communicate the scope and depth of our certificates. We always include our adjunct instructor's input, as well as our Advisory Committee member's input for our courses and programs since they work out in industry every day. We collaboratively work toward the goal of having amazing, relevant courses and programs for our students. Full-time instructors are in the classroom and not in the field, so our adjunct and advisors are invaluable at keeping our programs cutting edge. They are our best source of the knowledge, skills and abilities needed by our students.

How do they align with employer and transfer expectations?

As stated above, for the past two years Art Gerwig and I examined every course, AS degree and Certificate program in the Drafting Technology department. We reached out to Ruishan Chow, the Regional Director of Employer Engagement, and to Monica Rosas the Coordinator, K14 Career Education WBL & PD for San Diego & Imperial Counties Community Colleges. We also enlisted the advice and implemented recommendations from our Drafting Advisory Committee members, our adjunct faculty, and our students. We asked, what are we doing right? What are we doing wrong? What is happening in industry that we need to immediately implement in our program? We asked our students what they thought of our program, and how could we improve. How could we better serve them? After gathering stacks of information, we attended numerous work sessions with Wendy Nelson and Cheryl Kearsse to rewrite every program learning outcome and course outcome for each AS degree and certificate as well as new SLO's for every course. We upgraded, energized and brought our certificates and AS degrees into the 21st century. We deactivated certificates, AS degrees, and courses that were no longer relevant. We renamed three of our certificates and AS degrees to reflect industry nomenclature. We created new courses and eliminated irrelevant courses within these Programs. We also created three new certificates, which we just renamed on the advice of our Advisory Committee. These are currently in META awaiting approval. We are absolutely, 100% confident that our program's learning outcomes communicate the scope and depth of our degrees and certificates currently being offered in the Drafting technology Department.

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

The Drafting Department has the opportunity to assess outcomes every day we come in contact with our students. Our courses are 100% hands on from day one. Students are designing and drafting many, many assignments during the semester with us right next to them every day they attend class, and even more now that we are on-line. We are very much in tune with how our students are achieving outcomes by their achievement level on each assignment and throughout the semester. The amount of work and level of aptitude expected from our students is industry standard. Our classes, assignments and expectations mimic the workforce. They cannot pass the class if they cannot complete the assignments, which means they are demonstrating the learning outcomes.

Summarize the major findings of your program outcomes assessments.

- Our program outcome assessments align with industry standards
- Our program outcome assessments change as industry changes
- Our program outcome assessments are attainable by the majority of our students

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, you will reflect upon the number of completions students earned for EACH degree/certificate you offer. As required for accreditation, you are also asked to set a standard which represents the lowest acceptable number of completions and a stretch goal for increasing the number of awards.

Link to **Program: Completions**

Copy and paste five years of completion data for each of your discipline's degrees and certificates.**Degrees and Certificates Awarded**

2016-17 2017-18 2018-19 2019-20 2020-21

Associate in Science Degree

Draft and Design CADD/CAM AS 2 5 4 2 3

Drafting Techn: Multimedia AS 1 1 1 1 0

Elec Engr Draft/Design Tech AS 5 2 0 5

Mech Engr Draft/Design Tech AS 4 5 6 5 4

AS Total 6 16 13 8 12

Certificate

Certificate of Achievement 2016-17 2017-18 2018-19 2019-20 2020-21

Draft and Design CADD/CAM CA 1 7 6 3 2

Drafting Techn: Multimedia CA 0 1 1 1 0

Elec Engr Draft/Design Tech CA 1 7 4 0 4

Mech Engr Draft/Design Tech CA 3 7 9 6 3

Certificate Total 5 22 20 10 9

Grand Total 11 38 33 18 21

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

Decreased

What factors have influenced your completion trends?

Our numbers were highest three years ago. Most of our courses are currently cross-listed with Engineering. Three years ago, we had two members of the Physics and Engineering Department that championed enrollment of their students into our drafting classes. I was invited every semester to come and talk to their students about our programs and courses to solicit student enrollment. We were heavily enrolled (slightly more than 50%) with Engineering students. Now, neither of those instructors are in that department. One semester before Covid-19 hit, the new FT Engineering instructor, was enthusiastically working with us to collaboratively build enrollment. Spring 2021 the Dean of MSE essentially told us to remove all Engineering cross-listing with our Program. The Engineering students will still be able to take our classes for transfer degrees, but they will not even know that we exist since we will not be “in their faces.”

After all the work of revamping the Drafting technology Department, COVID-19 hit. We have had no face-to-face time with our student for almost two years. We are a hand-on Program. You cannot get the skills, abilities and knowledge from a book. You may be able to teach yourself a little bit about the software, but student-teacher interaction is key to our Program's success. Talking about our Program and Certificates is a part of every class that Art and I teach. Our classroom has an area in the classrooms with stacks of flyers with all the AS degree and certificate information for the students to take with them. This is all missing from online instruction, even though everything is posted in their Canvas pages. When we are in the classroom, we see the students throughout the day and the week. We talk to them constantly about time/day/dates that classes are offered. We talk about application deadlines. Once again, we barely know our online students. We do know that most of them are anonymous. It takes physical, human interaction for our Program to succeed.

We need counseling to know what we do, and read the information we send them. We have a robust and extensive discipline. What we teach is difficult. Students need to know they need to show up physically and mentally. Students need to realize they need to know how to read, to do math and how to communicate. Our software is not easy to learn. We have removed, revamped and created new courses and programs for our discipline. All our programs have been redesigned to make our degrees and certificates attainable in a shorter amount of time. They are now relevant and streamlined. They are attainable in one year if we run our entire program without cancellations due to lack of enrollment, lack of instructors, or lack of classroom space. We need marketing materials and a redesigned website. We have created something that has the potential to be fabulous, but the two of us cannot do everything.

Finally, there is a lack of enthusiasm, advertising and outreach for our Program, as mentioned above. We finally had an updated video made for our Program, and we have no one to help us with the outdated website, much less the time to design it. We do not have any brochures or flyers to put into our current student's or potential student's hands. Again, everything is listed on the website and in Canvas, but we find our students barely read the Canvas pages and rarely consult the website. Our classes in Canvas do have a “Getting Started” Module which has a dedicated page to Programs and Certificates, so hopefully this will help until we return to the classroom. As mentioned above, we do have dedicated bulletin boards in the classrooms displaying our programs and classes. We made ran off copies of our Programs and put them into holders in the classroom for the students to take with them. They are just Word documents on colored paper, but at least we have something. Years ago, we worked with Palomar's creative services for a department brochure. They ask us to design what we wanted, write the content, and find the pictures. We have no time to do their job and ours too. This sounds really harsh, but if we had the time, and we were graphic artists, it would be no problem designing our own outreach materials, and then simply have Creative Services run off the copy. I happen to know they do exceptional work for the Fashion department and others too, so I don't understand why it was such a bad experience for Drafting.

Our accrediting body, ACCJC, and the Federal Department of Education requires that colleges establish standards and goals for student success and completion.

A program-set standard for completion represents the lowest number of program completion you deem acceptable for your program. 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.

A program stretch goal for completions is the number of completions you aspire to award for each program in your discipline.

To determine your stretch goal, consider the number of annual completions you typically award over time, then consider strategies or efforts you are making to increase completions in your program. Then identify the NUMBER you want to set as your goal.

Program Information Summary

In this section you are asked to evaluate your programs by considering their program learning outcome assessments, the annual number of completions, goals for completions, enrollment and efficiency trends and any other internal or external factors that had an impact on your program.

What factors have contributed to the success of your program(s)? Describe how they have contributed.

The biggest contributing factor to the success of our programs is that we have phenomenal instructors. We are not a huge department, but we run a good amount of classes each semester with multiple sections. We have two full-time instructors and two, sometimes three adjunct instructors. Right now, we only have two approved adjunct instructors. Our adjunct work their maximum load, and actually ask for more classes. They come directly from industry. They are teaching students the skills they use every day at work. They are dedicating professionals working to making our students and our programs successful. They take great pride in what they do, and never take the easy way out. They go far and beyond teaching their six hours a week. We always consult them on curriculum, SLOs and all things industry related. They have insight as to what goes on in the classroom and in the workplace. They are a wealth of relevant information. They are part of our team, and we could not be successful without them.

Another factor that is currently contributing to our success, or maybe we should say survival, is our online presence. When COVID-19 took over our world, we worked with instructional designers to create our Canvas courses. We know our courses are designed with every state of California requirement. We know they are current, relevant and actually some of the best online. We know this because our students tell us they are. We worked tirelessly to get extremely difficult software classes online to provide a virtual classroom experience for our students, not just a bunch of text on a Canvas page. Each instructor, full-time and part time, has made their own step-by-step videos for each and every lesson/assignment. We don't use other people's or YouTube videos for instruction. We did not leave any curriculum or assignments out of the classes. They are doing exactly the same work as they would be doing in the classroom. It is a tremendous amount of work to deliver this high standard of instruction, and even more work to get the student's assignments submitted. One more important thing to mention is that our adjunct instructors also worked with the instructional designers to create their courses in Canvas.

What factors have presented challenges for your program(s)? Describe the impact of these challenges.

We know we can have a super successful program with the new courses and programs, but the situation we are in now of online instruction is counterproductive to our success. When we went to online instruction Spring 2020 semester, we had about a 50% drop out rate. The same is true about our certificates and degrees. When students are online, we do not have the opportunity to “cultivate” them or to keep track of them as we do face-to-face. Online students seem to think they are anonymous. They also can easily enroll and withdraw without feeling they are “dropping out.” It is like they are window shopping, or sampling classes. I think this accounts for some of our numbers being low. Twenty-two is our cap, so when four students drop, the percentages look bad. When we are in the classroom, getting students to complete their classes and become interested in our programs is part of everyday engagement in the classroom. We are able to guide them, and basically get them to the finish line. We know our students when we are face-to-face with them. Also, when students are around like-minded students, really great things happen. It builds community and improves success. It definitely improves our enrollment and completions. We need to be with our students physically for our Program to be successful.

Another challenge that Drafting faces is a lack of adjunct instructors. For the past year and a half, we have had to drop classes from our schedule because we don't have the instructors to teach them. Our courses are highly specialized and they require an industry expert/specialist to teach them. An example is our Printed Circuit Board Design classes. Only printed circuit board designers can teach this class. Neither of the two full time faculty are PCB designers, so they can't teach it. The pay scale for an adjunct instructor is nowhere near what a qualified applicant for our department would make in industry, so it is really difficult to find instructors. We cannot find adjunct that is both qualified to teach and willing to accept that this is more of a “favor” to teach for us, than a paying job. The other problem with finding adjunct is not the number of applicants, but finding an applicant that actually has the skills listed on the job announcement. Because our courses are so in tune with industry needs, we cannot put just anyone in the classroom including PhDs in Physics/Engineering that have applied. Additionally, our certificates have requirements that result in students needing classes during the day and at night, so how do we find instructors for the daytime to teach? This leads to us having to run these classes at night which leads to a lack of classroom space for night classes. If we had a huge program with many instructors, we could just run our full program day and night, but this is not the case. It is a huge challenge every semester.

Here is another problem. If a beginning class runs in the Fall and it is cancelled, we cannot run the it's advanced “partner” class in the Spring since the beginning class is a prerequisite for the advanced class. The schedule is created so far in advanced; we can't predict what will happen. We are only allotted so many classes, and if one fails in the Fall it has a domino effect. We need to cancel the class in the Spring for lack of enrollment. Also, some of our classes are only run once a year. If it fails in the Fall, or finished with a low number of completers, we have to wait another year to run the class, and no one gets a certificate that year. We are frustrated and our students are angry and frustrated. This are all problems that keep me up at night not to mention hinder small programs from growing.

COURSE INFORMATION

In this section, you will review how students perform in the courses you offer as part of your program. The Chancellor's Office Vision for Success stresses the importance of reducing equity gaps through faster improvements of underrepresented groups.

Data are provided to help you examine differences in course success rates (C or better) across student demographic categories (e.g., gender) and course type (e.g., face-to-face, online).

After you complete your review of course success data, you are asked about the assessment of student learning outcomes at the course level, progress you have made in these assessments, and changes you have implemented as a result/

COURSE SUCCESS AND RETENTION

ACCJC also requires that colleges establish institutional and program level standards and stretch goals for course success rates.

Program-set standards for course success rates represent the lowest success rate deemed acceptable by your discipline. 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. The College's institution-set standard for course success rates is 70%

Program-set stretch goals for course success rates represent the success rates you aspire your students to achieve.

Link to Course Information

The data includes overall success (% C or better) and retention rates (% No Ws) . The data tables include course 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/>)

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

70.0%

Why did you choose this standard?

Because we are still in an online teaching mode, we realize that 70% might even be a stretch. As hard as we work, this is very disappointing and depressing. If the students would put in the effort, it is 100% attainable. We are certainly putting in excess of 200% percent effort.

What is your stretch goal for course success rates?

90.0%

How did you decide upon the goal?

We know it is possible. Ideally 100% would be our stretch goal, but this is not a realistic goal, given our current situation with online learning and entirely revamped degrees and certificates. Once we get back in the classroom and be hands-on with our students, 100% would be the ultimate stretch goal. Right now, 90% sounds like a huge stretch given what has happen over the past two years.

COURSE STUDENT LEARNING OUTCOMES (SLOs)

Summarize the major findings of your course level student learning outcomes assessments.

As mentioned earlier, we 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 are now most current in this area. Our assessment show that our students are doing really well in our courses. The data presented does not always reflect the same. We need to investigate further to find out why there are discrepancies in the data.

Excluding courses that haven't been offered in the last three years, confirm that all of your courses have been assessed in the last three years.

Yes

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CAREER AND LABOR MARKET DATA

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](#)

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

No

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

Projected Occupational Demand

Between 2020 and 2025, Drafting and Design Occupations are projected to increase by 10 net jobs or one percent. Employers in San Diego County will need to hire 132 workers annually to fill new jobs and backfill jobs due to attrition caused by turnover and retirement, for example. "Mechanical Drafters" are projected to have the most labor market demand between 2020 and 2025, with 48 annual job openings.

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

Everything we do in our Program is to prepare students for the workforce. We not only teach them our curriculum, but we put an emphasis on essential skills valued by employers. We were at a seminar last week where a panel of local industry leaders spoke on this very topic. Every company can teach skills, processes, and improve an employee's ability to do their job. The one thing that is missing, and cannot be easily taught, are the following: emotional intelligence, effective communication, creative thinking, collaboration, dependability and resourcefulness (courtesy of Jewyl Alderson Clark). These are skills that employers are valuing today in an employee. Every day we try to remind students that we are not in class just to get the homework done. We are here to make you the person that people want to hire. We do this every day, all day long. Additionally we work very closely with Bruce Reaves as mentioned above. We have forged a relationship with several local companies to hire our students. We have a relationship with Sandia National Labs in Livermore, CA. they have asked that they be are first pipeline for graduates.

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

The Drafting Technology Department's last advisory committee meeting was March 25, 2021. Our advisors told us our courses and programs were spot on with industry needs, and very pleased that their guidance and input shaped our Program. Discussion ensued about Engineering Department telling us to remove the cross-listing from Drafting Technology courses. It was brought up that now that we need to update our curriculum again it would be a good time to make sure we have industry standard and "student-friendly" titling for all our courses and certificates. It was also suggested that we rename our discipline to "Practical Engineering" Our Advisors unanimously agreed that we are in need of Industry Standard equipment/computers. The Dell computers we currently have are not industry standard and cannot run the multitude of software loaded on them. There was much discussion about the need for a new/adequate facility to house/run our Programs. Our Advisors agreed we need advertising and marketing for our Programs. It was suggested that we check out a website called Edge Factor which has worked phenomenally for other schools. Our Advisors also agreed our website is in serious need of updating and pizzazz.

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

According to the Centre of Excellence, comparing labor demand (annual openings) with labor supply suggests that there is a supply gap for Drafting occupations in San Diego and Imperial Counties, with 132 annual openings and 69 awards.

According to EDD, San Diego County estimates job openings in 2018 - 2028 to be 510.

Between January 1, 2018 and December 31, 2020, the top five employers in San Diego County for Drafting and Design Occupations were Qualcomm, General Atomics, Apple, Intuit, and NV5 based on online job postings

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? If so, how would the new or emerging careers impact your future planning?

Careers:

CAD Designer (Computer Aided Design Designer)

CAD Operator (Computer Aided Design Operator,

Design Drafter

Designer

Drafter

Drafting Technical

Mechanical Designer

Mechanical Drafter

Product Designer

Project Designer

Electrical Designer

Electrical Drafter

Engineering Agent

Engineering Associate

Emerging Drafting Jobs:

Mechanical Drafting Designer - Automotive

Mechanical Designer - Aerospace Product and Parts Manufacturing

We are ready for these emerging fields with our updated curriculum, degrees and certificates.

What are the associated knowledge, skills, abilities (KSA's) needed for the occupations listed above? (click examples in the link above to get ideas)

These are the KSA's needed for Drafting occupations:

Knowledge:

- Design — Knowledge of design techniques, tools, and principles involved in 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.
- 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.

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 is inclusive each of the KSAS listed above. 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 the knowledge during the lecture. During this lecture they are sitting in front of their computers 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

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. We work closely with Bruce Reaves, who is a Job Developer/Case Manager here at Palomar. He is great at advertising our programs to local industry. We articulate with local High Schools and SDSU. We go to several Career Fairs, High Schools and Cal State San Marcos to advertise our Programs. We attend a lot of Advanced Manufacturing seminars and trainings to get the word out about our new, revamped curriculum and degrees. We have been guest speakers for a couple of these events.

Our Palomar website would be a great way to market our programs, but our site is outdated and in need of a lot of work. We built 1yr and 2yr plans for students for the website but they have not been uploaded along with our six new AS/CA degrees. Our website needs current pictures of students with new computers and new machinery. One advisor comments every meeting about how bad our website is and how old our computers and monitors look. We even have retired faculty pictures still on there. We did have a new video made over the summer which has not been uploaded. We do not have a dedicated web master. We were told to have our ADA fix the website, but our ADA is extremely overworked. She is doing the job of 3 ADAs. Our prior ADA knew our Program so well, she would just handle these issues without us having to ask. Our new ADA handles three departments. She is phenomenal, but she has way too much on her plate and is being asked to do even more. These two ADAs were moved to Departments they were unfamiliar with. The tasks may be the same, but they take longer to accomplish because they are unfamiliar with the department and their needs. Wouldn't it have been a better idea to find the money and hire a few more ADAs and train them? Maybe the ADA's should have assistant ADAs that can become the new ADAs once they know what they are doing. In the long run everyone would be more productive and happier. Asking the ADAs that are left to do more work, in the same amount of time for the same money seems a bit too much.

We could be doing more to market our programs, but we have zero time. Faculty are being asked to do so much more aside from making our Programs fabulous and making the community aware of that fact. We spend more time doing paperwork, reports, SLOs, PRPs, FSA's, curriculum, professional development, community outreach, budgets, applying for federal funding, marketing, hiring committees, finding adjunct, training adjunct, FSA's, committee work and meetings. This is in addition to answering student questions about our programs, sending them information, getting them registered in the correct classes, helping them apply for graduation, doing waiver forms. Then we need to create our Canvas pages, creating our lesson plans, create our assignments, handouts, grading papers, lecturing doing labs, correcting papers, posting grades, zooming with students, and list goes on and on. I know it is all part of our contract, but it doesn't all fit into a 7-day week. Students are, and should be, our top priority, but we are spending the majority of our time and talents elsewhere. We need more staff positions filled and/or created. Everyone is exhausted. Hopefully some of these issues will be resolved.

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](#).

If you require any additional resources beyond your exiting budget, please be sure to request those resources in the next section titled "Resources".

Goals

Goal 1

Brief Description

Redesign all Certificates and AS Degrees

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

This goal is almost complete. We have a few courses once again need to be changed and updated. We started these new certificates and AS degrees the first Fall semester after the COVID-19 outbreak. That particular semester was the lowest enrollment and retention rate Drafting Technology has ever had. It was not a good time for us to unveil our newly redesigned courses, certificates and degrees. As stated earlier, when we return to campus, we will be able to finally achieve this goal.

Outcome(s) expected (qualitative/quantitative)

- More robust courses and programs
- More relevant material and instruction
- More certificate and degree completions
- Creation of stackable certificates
- Faster completions
- Happier students :)

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

This goal is in direct alignment with Palomar College's mission statement, the Drafting Department's mission statement and Guided Pathways. All three of these aspire to inspire positive change and enhance the learning experience at Palomar. These changes will allow drafting and design students to receive the most relevant, current instruction and professional practices designed to evoke passion and inspiration in the pursuit of their professional goals.

Expected Goal Completion Date

9/26/2022

Goal 2

Brief Description

Educate our students about our new AS Degree and Certificate programs

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

We will need to start creating print materials for when we return to campus. We need to update our website asap. We will need find a way to make this information readily available in Canvas for our online classes more so than we are already doing. We will need to put this information on a Facebook page. We also need to again contact counseling, so they will start using the current information for appointments.

Outcome(s) expected (qualitative/quantitative)

- Students will earn AS Degrees and/or Certificates and graduate from Palomar
- Students will be able to receive a Certificate within 1 year if there are no class cancellations
- Qualified students to enter the San Diego County Workforce

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

This goal is in direct alignment with Palomar College's mission statement, the Drafting Department's mission statement and Guided Pathways. All three of these aspire to inspire positive change and enhance the learning experience at Palomar. These changes will allow drafting and design students to receive the most relevant, current instruction and professional practices designed to evoke passion and inspiration in the pursuit of their professional goals. We will equip students with the knowledge, skills and confidence necessary to succeed.

Expected Goal Completion Date

5/13/2022

Goal 3**Brief Description**

Update Computer Equipment in our Labs

Is this a new or existing goal?

New

How will you complete this goal?

We have already have a quote, and Jose Vargas from IS has been helping us select the appropriate equipment. Dean Wyche is looking for funding.

Outcome(s) expected (qualitative/quantitative)

- Happier Instructors and Students
- Faster delivery of content and output
- Less work for IS to come up and fix or crashing computers

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

In direct alignment with Palomar College's mission statement, the Drafting 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 drafting 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, knowledge, and self-confidence necessary to become engaging leaders of change in society while living respectfully and responsibly in a global society.

Expected Goal Completion Date

5/13/2022

Goal 4**Brief Description**

Always be Current and Relevant

Is this a new or existing goal?

New

How will you complete this goal?

This will be an ongoing commit and goal of the Drafting Department. Our Industry is always changing and evolving. We need to make a commitment to always deliver the most current and relevant information, training and technology to our students. If we do this our students will have a great future and many opportunities to succeed because they came to Palomar College. They will be confident that they received the best possible education and experience possible. When they complete a degree or a certificate, we will be confident that they are current, relevant and marketable graduates.

Outcome(s) expected (qualitative/quantitative)

Attainment of Certificate(s) of Achievement

Attainment of AS Degree(s)

Attainment of Marketable Skills, Knowledge and Abilities

Employment in local, state and nationwide positions

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

The very first line of our mission statement is:

In direct alignment with Palomar College's mission statement, the Drafting 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 drafting disciplines.....

It couldn't align and better than that.

Expected Goal Completion Date

5/20/2022

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 fiscal year 2019, 2020, 2021. 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?

Yes

What budget considerations would you like your dean/supervisor to be aware of or to consider? Please be as specific as possible. For example, if you need an increase in the 40000 account and a decrease in the 23000 account, describe what increase your department needs, how much, and a description of why the department needs the adjustment.

We need an increase in our 5000 account for software. We use highly sophisticated software and machinery in our Program. One of the most phenomenal things about our program is that we have the newest, most relevant software available. In a few instances, we are the only college in the area to teach these softwares. This is why student come to Palomar and employers send their employees to Palomar. We have to renew our software licenses every August, before school starts because we need the latest releases and our software expires. Here is the problem, we are asked to do a budget. We prepare our budget by getting quotes on the approximate price of our different softwares, and pricing on other items in the budget, and then we turn it in to our ADA. She prepares the budget and turns it in. When the new budget is given to us at the start of the fiscal year, it doesn't cover the cost of the software. We need approximately \$10,000 per year for software renewals. Every year we have a cost increase of approximately 5%. What ends up happening is we scramble at the very last minute to find money to fund our software needs. This seems to happen every year.

NOTE: PARTS 3, 4 and 5 – TECHNOLOGY, FACILITIES AND OTHER NEEDS

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?

Yes

Technology Request

Technology Request 1

What are you requesting?

New computers and monitors etc. for DA2 and DA3

Provide a detailed description of the item 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.

Dean Wyche is already aware of this request. She is diligently trying to find the funds. We are primarily a software driven Program. We currently have computers that cannot run the software on the existing computers without constant crashing problems. This request is directly in line with our SLOs since the majority of what we do is computer software based.

Estimated Amount of Request.

\$260,000.00

If any, list ongoing costs for the technology (licences, support, maintenance, etc.)

\$12,000.00

Do you already have a budget for this request, or will you need additional funds?

Yes, The bid we have is probably not as accurate as it was three months ago when we submitted it for Perkins funding. It will need to be update once the funds are identified.

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

#3 Update computers in DA2 & DA3 labs.

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

1:1

1:2

1:3

1:4

1:5

If you have multiple requests for technology and had to prioritize, what number would give this? (1 = Highest)

1

Do you think that your request for technology will require changes to a facility?

No

Note about technology requests:

All technology requests will now go through a review process before prioritization.

- *Your dean/director will send you a Technology Request Checklist (aka Technology Proposal Analysis Checklist).*
 - *You must complete this checklist and return it to your dean no later than 11/19/2021.*
 - *Once the dean approves the form and the request, the dean will send the document to the Technology Review Committee to determine IS resources needed, any integration issues, and/or potential overlap with existing technology.*
 - *The results of the review will be sent to the dean and chair with feedback.*
 - *The dean will determine whether or not the request moves forward for prioritization and/or implementation.*
 - *Requests for one-time funding will move forward for prioritization.*
 - *Requests that use funding from your department budget may move forward for purchase.*

Part 4: Facilities Requests

Do you have resource needs that require physical space or modification to physical space?

No

PART 5: 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?

Yes

Requests

Item 1

What are you requesting?

Improvements/Remodeling of the DA Building

Estimated Amount of Request.

\$500,000.00

Will you accept partial funding?

No

Budget Category

Operating Expenses

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

Goal #4

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

1:4

Provide a detailed description of the item 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.

Note: This request will be in both the Machining Technology's PRP and Drafting Technology's PRB since it will impact both Programs.

Approximately 2 years ago Michael Wright was hired as FT Faculty for the Machining Technology Department. Upon relocating his family to California and starting his first semester at Palomar, it was clear that there was not a true Machining Technology Program at Palomar or a Machine Shop. There were a few classes, some measuring tools, and a two CNC Machines in a very small space attached to a converted trailer. Since he was hired, Mike has worked diligently on creating legitimate machining courses, certificates and degrees. He has acquired over \$2 million dollars of equipment for the program and cleared out the mess of a space that was called the Machine Shop. The Program is still in need of additional equipment, but more importantly, there is no space/room to run the classes or to put the new, necessary equipment. Currently Machining Technology, Drafting Technology, Architecture and Interior Design share the three classrooms that comprise the DA building. It is cramped, scheduling is a nightmare and Mike cannot run all the courses in his Program due to lack of proper, safe space. There are over 800 unfilled positions in San Diego County for machinists, and no Community College in North San Diego County has a Program to fill these needs. We now have the curriculum in place. We have most of the necessary equipment. We have an incredibly talented FT Faculty instructor with over 20 years of machining experience. All we need is space to run the program and a whole lot of community awareness/marketing.

A temporary (2-5 year) solution to the problem would be make improvements/remodeling to the DA building. The Architecture and Interior Design Programs are in the process of moving their entire Programs to the Rancho Bernardo campus, and the DA12 space is now available. The Machining Technology Program could run courses in this room, which would result in more student enrollment and certificates/degrees being awarded. Even with the additional classroom, it is still not going to be anywhere near enough space for a full Machining Program to run in order to fill labor needs in San Diego County, but it will allow the Machining Technology Program to build enrollment and increase degrees awarded. The remodel will be a temporary solution until an industry standard facility for Advanced Manufacturing can be built. Additionally, the Drafting Technology Program could also run some of their classes in this room. The space is not usable the way it is now. When Architecture and Interior Design move out, the room will not have any furnishing, accessibility or usable space necessary to run Machining classes due to very specific needs that have to do with the nature of the class and safety. Here are some of the needs for improvements/remodel:

Removal of unneeded existing furnishings and items left behind

Demolition of some existing interior walls

Possible exterior/interior wall modification

Slab location/possible concrete pillars poured

Pathways/Doors/Access

Electrical/Wiring/Outlets

Additional Electrical Panel

Drywall/Paint/Trim

Flooring, or possible patching

Lighting/Windows

Cabinetry/Hardware/Locks

Supply/Storage Cabinets

Appropriate Countertops for Mounting Equipment

Floor Mats

Magnetic White Boards

Desks/Computers/Chairs/Printer(s)

Additionally, the Machining Technology Department will need student workers for the shop for safety reasons, several Adjunct Instructors and eventually another FT Faculty.

The SLOs that this request align with are:

Equipment Operation

Perform set-up and operations on CNC Equipment such as CNC Mill, CNC Lathe, 5-Axis CNC Mill.

Operate MasterCAM Software

Draw, Import, and manipulate CAD files and wire-frame using MasterCAM

Programming Skills

Import CAD Files, create geometry, and manipulate WCS Planes using MasterCAM.

Create Programs

Create programs using MasterCAM to run in CNC Equipment such as CNC Mill, CNC Lathe, 5-Axis CNC Mill

Create Tool Paths

Create tool paths and post G-Code files for CNC Machines.

Interpret Industrial Blueprints

Read and interpret industrial blueprints

Use of Measuring Tools:

Upon completion students will be able to properly use and care for measuring tools

Inspection Skills:

Upon completion students will have the basic skills needed to use CMM, Faro Arm, and Optical Comparator to measure and inspect manufactured parts and goods

Please upload a copy of the quote, if available.

Item 2

What are you requesting?

Estimated Amount of Request.

Will you accept partial funding?

No

Budget Category

What 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 item 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.

Please upload a copy of the quote, if available.

I confirm that all full-time faculty in this discipline have reviewed the PRP. The form is complete and ready to be submitted.

Yes

Enter your email address to receive a copy of the PRP to keep for your records.

atalone@palomar.edu