



Program Review and Planning

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
2018-2019

Are you completing a comprehensive or annual PRP?
Comprehensive

Department Name
Trade and Industry

Discipline Name
Wastewater Technology Education (WWT)

Department Chair Name
Anthony Fedon

Division Name
Career, Technical and Extended Education

Website address for your discipline
<https://www2.palomar.edu/pages/watertech/>

Discipline Mission statement
Our mission is to educate and prepare students for careers and advancement in the water industry.

[\(click here for information on how to create a mission statement\)](#)

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

Are any of your programs vocational (CTE/CE)?
Yes

List all degrees and certificates offered within this discipline.
AS Degree
Certificate of Achievement

Please list the names and positions of everyone who helped to complete this document.
Tom Scaglione, Water/Wastewater Technology Program Coordinator

Full-time faculty (FTEF)

Part-time faculty (FTEF)

Classified & other staff positions that support this discipline

Shared Academic department Assistant

Additional hourly staff that support this discipline and/or department

None

PROGRAM INFORMATION**PROGRAM OUTCOMES**

Begin this section by reviewing the Program Review reports for courses and programs in TracDat. All active course and program outcomes should be systematically assessed over a 3-year cycle.

- **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 and align with employer and transfer expectations?

Program learning outcomes are well defined and appropriately articulate industry expectations. Expectations in the categories of calculations, Equipment and Nomenclature, Problem Solving, Regulations, and Written Communications provide detail on scope and depth of the awards offered and align with employer expectations. However, technology needs to be emphasized in the equipment-related Program Learning Outcome (PLO) to better align with ever-evolving technological advancements.

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

The adequacy and accuracy of current PLOs are discussed with faculty, the Department Chair, and occasionally with the Division Dean. If any changes to PLOs are considered, the agenda for the next Advisory Board meeting will include recommendations for changes to PLOs. The Advisory Board will consider if the recommendations align with industry expectations and form a consensus to the final wording for editing. The Department Chair, or designee, will make agreed-upon changes to PLOs.

Summarize the major findings of your program outcomes assessments.

There were no recommended changes to PLOs at the last Advisory Board meeting, or meetings leading up to the Advisory Board meeting. PLOs accurately reflect the needs of and expectations from of the wastewater industry. However, changes to the equipment-related PLO that address evolving technology may need to be addressed at future faculty and Advisory Board meetings.

Reflecting on the major findings you summarized, what are some questions you still have about students' learning in your program that you have not yet been able to address with your outcomes assessments?

None

Depending on the degree or transfer goals of our students, they have the choice of three different GE pathways:

- [Associate Degree GE Requirements](#)

- [CSU GE Requirements](#)
- [IGETC Requirements](#)

Palomar College has identified a set of General Education/Institutional Learning Outcomes, which represent the overall set of abilities and qualities a student graduating from Palomar should possess. [Click here for a link to Palomar's GE/ILOs.](#)

How do the courses in your discipline support General Education/ Institutional Learning Outcomes? In your response, please specify which GE/ILO(s) your discipline supports.

The calculations class is the foundation for all courses in the program and supports computational general education. Teaching of real-world situations and treatment plant processes that require complex formulas and calculations for thorough analysis and resolution support Quantitative Literacy and Inquiry and Analysis of the Computation Institutional Student and Learning Outcome.

Summarize the major findings from your course outcomes assessments that are related to the General Education/Institutional Learning Outcomes that your discipline supports.

Courses within the Associates Degree are not transferable. The calculations course SLOs provide sufficient detail for general calculations, field analysis, and disinfectant dosage calculations, and effectively relate to expectations of the industry, the population served, and regulatory agencies, but not directly to general education learning outcomes.

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.

2017/18

AS = 3

CA = 6

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

Decreased

What factors have influenced your completion trends?

Decline in enrollment. Less classes offered.

Are the courses in your discipline required for the completion of other degrees/certificates?

Yes

Please list them

Water Technology Education AS

Water technology Education CA

Do you have programs with 7 or fewer completions in the last 5 years?

No

What is your program standard for program completion?

84.3%

Why did you choose this standard?

Negotiated District level from Core Indicator Report

What is your Stretch goal for program completion?

84.3%

How did you decide upon your stretch goal?

There is currently a significant gap in our standard that needs to be resolved before pursuing more aggressive goals.

ENROLLMENT TRENDS

Palomar College uses the WSCH/FTEF ratio as one indicator of overall efficiency in addition to the overall fill-rate for courses.

Although the college efficiency goal is 525 WSCH/FTEF and 85% fill-rate (minimal), there are many factors that affect efficiency (i.e. seat count / facilities / accreditation restrictions).

This information can be found by going to the "Program" page in the [PRP Data Dashboard](#).

What was your efficiency trend over the last 5 years? Was it expected?

	2013-14	2014-15	2015-16	2016-17	2017-18
WSCH/FTEF	560	900	880	567	589
Fill Rate	67%	107%	105%	60%	62%

What factors have influenced your efficiency trends?

Declining enrollment. Declining number of courses offered within the discipline. No full-time faculty within the program to provide outreach, strategic planning, and consistent administration in the program.

Are there particular courses or programs that are not getting sufficient enrollment, are regularly cancelled due to low enrollment, or are not scheduled at this time? What is contributing to this issue? Does this level of efficiency meet the needs of the program and the district?

All classes have seen a downward trend in enrollment due to not have a full-time faculty or program administrator to timely address downward trends and plan and implement strategies for improvement.

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

ACCJC also requires that colleges establish institutional and program level standards in the area of

success rates. These standards represent the lowest success rate deemed acceptable by the College. In other words, if you were to notice a drop below the rate, you would seek further information to examine why the drop occurred and strategies to address the rate.

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

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

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

COURSE INFORMATION

COURSE SUCCESS AND RETENTION

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

70.0%

Why did you choose this standard?

With no previous program standard, the College's institutional standard establish's the program's standard.

Has your overall course SUCCESS rates increased, decreased, or stayed the same over the last 5 years?

Stayed the same

Was this expected?

Yes

What is your Stretch goal for COURSE success rates?

80.0%

How did you decide upon the goal?

The success rate has dropped below 80% only once in the past five years. An 80% is significant above the current standard and the highest standard within the Trade and Industry department.

Have your overall course RETENTION rates increased, decreased, or stayed the same over the last 5 years?

Increased

Was this expected? Please explain.

Yes - any variation is expected with changes in the economy and overall enrollment trends.

Are there differences in success or retention rates in the following groups? (choose all that apply)

Are there differences in success/retention between on-campus and online courses?

N/A

Do you have any best practice methods you use for online courses to share with the community?

Not at this time. The first online course on the program is scheduled for Fall of 2019.

COURSE OUTCOMES

How is course assessment coordinated across sections and over time?

Course assessment across sections is coordinated through faculty/department chair meetings and periodic in-depth review of the relevance of outcomes and successes of students in the program.

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

Course-level assessment methods remain the same as they appear to be sufficient to keep outcomes relevant and effective.

Summarize the major findings of your course outcomes assessments.

Course outcomes align with real-world industry expectations and encompass safety issues, knowledge, analysis, and resolution. Some outcomes may be too narrow or too specific in references (more suitable as course objectives).

Some outcomes may need to address evolving technology.

SLOs are not included in Course Outlines of Record.

Reflecting on the major findings you summarized, what are some questions you still have about students' learning in your courses that you have not yet been able to address with your outcomes assessments?

Does our program prepare students to use the most current technology in distribution, conveyance, operating, analysis, and treatment?

What are some improvements in your courses that have been, or can be, pursued based on the key findings from your course learning outcomes assessments?

Thorough review and update of SLOs for each course by the program coordinator and course instructor with particular sensitivity to the appropriateness of scope and contemporary industry technology. Populate Course Outlines of Record with SLOs after thorough review, editing, and consensus as to consistency of detail level and alignments with industry expectations.

PROGRAM CURRICULUM ALIGNMENT, MAPPING, SCHEDULING, & PLANNING

The Chancellor's Office Vision for Success stresses the importance of decreasing the average number of units accumulated by CCC students earning degrees.

Palomar College's Guided Pathways plan includes clarifying paths for students by sequencing course offerings so that they support scaffolding and timely completion. Our goal is to ensure learning through:

- The mapping and assessment of clear program outcomes that are also aligned to employer and/or transfer institution expectations.
- Engaging and applied learning experiences.
- Effective instructional practices to support students in achieving success.

How do your course outcomes help your students achieve their program outcomes?

SLOs are more specific than PLOs but are consistently relate to the PLO categorization - calculations, equipment and nomenclature, problem solving, regulations, ad written communication.

How do your degree maps and scheduling strategy ensure scaffolding (how all parts build on each other in a progressive, intentional way)? How do you share the maps with students?

Academic maps enable students to complete awards within two years even if all electives are taken. Foundational courses, and the first of sequential courses are mapped first. Maps are on the programs designated PC web page and incorporate career paths, including links to State Board certification requirements and applications, internship programs, industry associations, and career opportunities.

What is your departmental strategy on how you schedule your courses including the time of day you offer courses? Do you use fast track or block scheduling (putting required classes near each other) to organize required classes (Particularly to meet the needs of disproportionately impacted students)?

A matrix of course, room assignments, and times is developed for visual analysis with sensitivity to historical voids from courses cut due to low enrollment. Courses proposed are review before finalizing to see that the proposed course schedule and offerings align with academic maps. Courses are currently offered in the evening only to accommodate those working in the industry.

How do you work with other departments that require your course(s) for program completion?

Meeting with Public Works Management Faculty and coordinators, co-list the on course that is required for both programs, and assess needs of each others programs. The majority of courses are cross-listed with Water Technology. Water Technology and Wastewater Technology programs are administered together as one.

Does your discipline offer cross-listed courses?

Yes

How do you work with the other department(s) to ensure consistent curriculum per the COR and minimum qualifications? How do you coordinate course scheduling?

Water Technology and Wastewater Technology programs are administered together as one. The Public Work Management program shares one common course and is within the same department - Trade and Industry.

Are there curriculum concerns that need to be resolved in your department? What are they?

For curriculum specific to the lab analysis course - adding procedures and practices specific to brewery discharge will address industry concerns.

Requiring Lab Analysis for the AS and CA awards.

Are there courses that should be added or removed from your program - please explain?

No.

How is the potential need for program/course deactivation addressed by the department?

Historical course offerings and enrollment is updated and analyzed every semester. Programming mapping, course offerings and course content are reviewed by faculty, the Advisory Board, the Department Chair, and Division Dean every semester.

Is your department pursuing non credit or not-for credit options at this time?

No

Are there areas you would like to expand?

No

Click here for information about [Noncredit](#) and [Community Education](#)

Is your department offering online classes?

Yes

How do you consider student needs when determining which classes and how many classes should be offered online versus face-to-face?

The management class offered on-line allows the Public Works Management Program, a program with which the Wastewater Technology program has one cross-listed class, to promote a totally on-line program. Industry input output and course evaluations are considered when evaluating the need for distance education.

Describe other data and/or information that you have considered as part of the evaluation of your program

Database of input solicited from industry visits
Advisory Board input
Alignment with certification examination content

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](#)
- [San Diego Workforce Partnership](#)
- [State of CA EDD](#)
- [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?

Wastewater plant operators, collection system workers, Plant Technology (mechanical and electrical), Brewery facility maintenance and compliance, Regulatory and compliance monitoring and enforcement, Environmental consulting

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

Complex mathematics, biology, chemistry, mechanical and electrical, plant processes, system operation and performance monitoring, operation and control, active listening, quality control analysis, oral and written comprehension and expression, near vision, deductive reasoning.

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

Curriculum is specific to diverse functions of plant operations and conveyance.

Have you incorporated work based learning (work experience, internships, and/or service learning) into your program?

Yes

What have you done to integrate work-based learning?

Treatment Plant tours, lab classes, in-class certification

How does your work-based learning help your students learn how to do some of the tasks associated with the potential occupations?

The lab is designed to simulate work place conditions and situations (improvements are pending dependent upon grant approval). Regional treatment plant tours provide access to staff, facilities and processes in state-of-the-art treatment plants.

Water Resources Control Board certifies students during class time based on their knowledge and ability to monitor, operate and resolve issues simulated in the lab.

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

Industry visits with general managers, operations managers and human resources managers; High School job and career fairs, participation in the San Diego Workforce Planning Group, well-developed web site incorporating career paths and plans with course mapping.

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

1.435 water/wastewater utility jobs available within the San Diego Region over the next three to four years,

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

Working closely with San Diego Regional Water/Wastewater Internship Program

Including career paths and links to regulatory agencies and industry associations providing certifications in curriculum and program web page

Maintaining a partnership with industry and HR managers - announcing and posting job opportunities in all classes and on Canvas

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

October 18, 2018. Consensus on a new mission statement; move toward a single "water" program rather than water and wastewater programs, but maintain the distinct awards; pursue mini-certificates; send e-mail blast during budget preparations to remind operating managers to include training in their budgets; Minor curriculum changes.

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

1.435 long-term water/wastewater utility jobs available within the San Diego Region over the next three to four years,

No data available for short term projected job openings

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

Fund a full-time faculty position

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

Already secured approval for the position.

Currently in the recruitment process

Outcome(s) expected (qualitative/quantitative)

Having a champion of the program with consistent administration and industry partnering and outreach.

Increase the number of classes offered, including daytime classes, and program enrollment.

Increase program enrollment efficiency - WSCH/FTEF

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

Strengthen efforts to improve outreach, persistence, and student success.

Ensure the fiscal stability of the college and increase enrollments.

Educate and prepare students for careers and advancement in the water industry.

Expected Goal Completion Date

1/27/2020

Goal 2

Brief Description

Complete the design of the remodel of the laboratory

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

Goal is partially completed with improvement to the outdoor wet stations.

Securing funding for simulation controllers for the permanent stations, SCADA and integration (laptops, licensing, PLCs, tank level monitors, etc).

Outcome(s) expected (qualitative/quantitative)

State of the art instructional facilities to better prepare students for technology used in practice today

Increase enrollment

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

Educate and prepare students for careers and advancement in the water industry.

Expected Goal Completion Date

1/27/2020

Goal 3

Brief Description

Revise curriculum to improve program

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

Implementing changes embraced by the Advisory Board (requiring Lab Analysis class for awards, include procedures and practices specific to brewing industry discharge in the Lab Analysis curriculum, etc.).

Outcome(s) expected (qualitative/quantitative)

Curriculum that aligns with what industry anticipates from the program.

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

Strengthen efforts to improve outreach, persistence, and student success.

Educate and prepare students for careers and advancement in the water industry.

Expected Goal Completion Date

8/19/2019

Goal 4

Brief Description

Improve coordination among courses and perform a review of instructors

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

Partially complete - regarding coordination among courses with frequent faculty meetings, scheduling, and course mapping.

Hiring full-time faculty with performance evaluation experience.

Outcome(s) expected (qualitative/quantitative)

Improving the quality of education

Increased enrollment and efficiency - WSCH/FTEF

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

Strengthen efforts to improve outreach, persistence, and student success.

Ensure the fiscal stability of the college and increase enrollments.

Educate and prepare students for careers and advancement in the water industry.

Expected Goal Completion Date

12/14/2019

Goal 5

Brief Description

Improve the water lab outside area by providing a cover and lights

Is this a new or existing goal?

Existing

Goal Status

Ongoing

How will you complete this goal?

Partially complete - lighting has been installed and covers procured.
Need to coordinate effort with welding to install header for retractable awning.

Outcome(s) expected (qualitative/quantitative)

Improve outdoor instructional facilities
Increase enrollment

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

Strengthen efforts to improve outreach, persistence, and student success.
Ensure the fiscal stability of the college and increase enrollments.
Educate and prepare students for careers and advancement in the water industry.

Expected Goal Completion Date

5/25/2019

STAFFING AND RESOURCE NEEDS

Instructions

1. Refer to [Strategic Plan](#).
2. See [Data](#).
3. See career info (In PRP)

Are you requesting additional full-time faculty?

No

Are you requesting additional Staff, CAST or AA?

No