

**Public Works (PUB)**  
**2024-2025 Comprehensive Program Review**

**Presented to:**

Kimberly Mathews  
Dean, Career Technical Education

**By:**

Roberto R. Loya

# Instruction

## Section 1: Program Information

The Citrus College Public Works program course offerings prepare new personnel for public works occupations and provide upgrading within these occupations. Job opportunities exist in both the public and private sectors.

Program provides training for entry-level employment or advancement in public works occupations. In addition to offering an AS degree, the program has multiple certificate options which include public works administration, landscape and hardscape maintenance services, supervisor/management, and inspection. Citrus College Public Works courses, the degree, and certificates are designed in consultation with the Los Angeles and Orange County Maintenance Superintendents' Association (MSA) and as of October 2023 we are receiving guidance various Public Works municipalities within the region.

### Full- and Part- time Faculty –

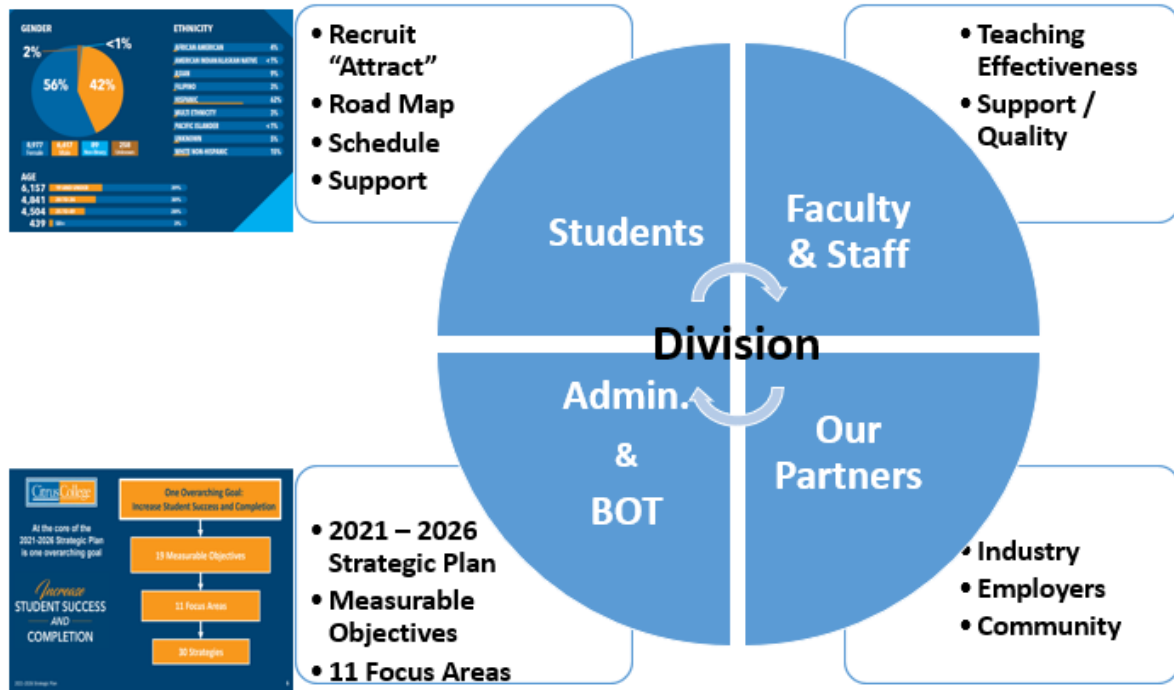
Full Time Faculty	
Roberto Loya	Public Works Administration
Part Time Faculty	
Nelly Wiles	Public Works Administration
Ralph Alba	Public Works Administration
Gerard Batista	Public Works Administration
Jason Townsell	Construction Safety

### Career Technical Education (CTE) Team

CTE Division	
CTE Dean	Kimberly Mathews
Dean's Office Administrative Assistant	Angie Alvares
Grants Supervisor	Therese Adams
Receptionist	Student Worker
Career Pathways Specialist	Alicia Lopez
Counselors	Maria LeDuc / Dr. Lucinda Over

## Section 2: Mission:

In alignment with the Citrus College Strategic Plan, Our PUB program educates and prepares work-ready students for careers in within the Public Works sector.



The Programs' mission, and objectives were reviewed and approved by the newly convened Public Works Industry advisory board on 10/10/2023.

### PUB Program Mission –

To prepare students with the foundational public works education upon which they can continue as lifelong learners and assimilate in the Public Works environment

### Objectives –

- Update the Public Works Program to achieve Academic/Industry alignment.
- Assist students with mastering the knowledge, hard/soft skills, and competencies sought by Public Works employers;
- Prepare students for potential internships and/or apprenticeship opportunities within the Public Works Sector.

## Program Core Values –

- **Student Success and Completion:** Meeting student needs by creating an educational environment in which students can attain a variety of goals.
- **Excellence:** Maintaining a high standard of integrity and performance leading to the achievement of academic and career goals.
- **Collaboration:** Seeking input from all sectors of the college and the community.
- **Diversity:** Fostering a learning community in which the diverse values, goals, and learning styles of all students are recognized and supported.
- **Life-Long Learning:** Encouraging enthusiastic, independent thinkers and learners striving for personal growth.
- **Integrity:** Behaving ethically in all interactions at all levels.
- **Technological Advancement:** Implementing cutting-edge technology that enhances instruction and prepares students for life-long success

## Degrees and Certificates –

### Associate Degrees

- A.S. in Public Works Administration

### Certificates of Achievement

- Public Works Administration
- Public Works Maintenance
- Public Works Inspection
- Greenscape Maintenance Technology
- Hardscape Maintenance Technology

## Teaching Philosophy –

Our teaching philosophy is built on the combined expertise of industry practitioners and academic professionals, with the student at the center of our mission. We believe that education is a collaborative, two-way process where instructors act as mentors, coaches, and advisors—dedicated to ensuring every student’s success.

- **Student-Centered Learning:**  
We prioritize personalized instruction that meets each student’s unique needs and leverages their individual experiences.
- **Communication and Collaboration:**  
By fostering open dialogue and active listening, we create a classroom environment that values two-way communication and mutual trust.

- **Adaptability and Inclusivity:**

Recognizing that no two students are alike, we strive to be flexible, accessible, and inclusive—welcoming diverse perspectives as a catalyst for richer learning experiences.

- **Win-Win Philosophy:**

We operate on a Win-Win principle: a student's success directly reflects our success. Our commitment is to be the best mentors, coaches, and supporters, guiding students toward lifelong learning and career achievement.

- **Diversity in Construction:**

We acknowledge that diversity enhances integrated construction teams, driving innovation and improved project outcomes. Our classroom mirrors the global industry by welcoming a variety of backgrounds and experiences, thereby enriching the learning process for everyone.

Professional track programs like Public Works Administration must be justified by industry needs and demands. Our program maintains the effort to ensure the program and curriculum are in the best alignment with the Public Works Sector's best practices. To that end, we work with our partners from industry, our PUB Industry Advisory Board (IAB), and our local and regional curriculum review members to help us achieve the best alignment. In so doing, we are ensuring that our students are well prepared and on the cutting edge of meeting the requirements for entry-level employment, based on the needs of the construction industry's employers within the region.

#### **Program Level SLOs –**

1. Understand the fundamental principles of management and supervision, its role and ethical obligations.
2. Understand the various inter-divisional collaborations and synergies that are necessary to support public's best interest and service.
3. Apply oral and written communication skills appropriate to the Public Works profession.
4. Understand the fundamental principles of decision making and problem/conflict resolution processes.
5. Understand the broader divisional functions of the Public Works organization.
6. Understand the fundamentals of a Public Works Contract, related contract documents, conditions, plans, specifications, regulations, codes, standard, and their respective order of precedence in the context of compliance and mitigating potential litigation.
7. Understand the basic applications of construction surveying in Public Works civil improvements.
8. Understand the roles and relationships between the various public works construction project stakeholders.
9. Understand the fundamental principles of the estimating, bidding and scheduling processes.
10. Demonstrate the interpersonal skills to assimilate in culturally diverse project team environments.

11. Understand the fundamental public works budgeting process, as well as types of funding sources that support Public Works operations.
12. Apply current technology applications and innovations supporting the Public Works industry sector.
13. Understand the fundamental inter-relationships between the procurement and contract administration processes and alternative project deliveries.
14. Understand the fundamental principles of life-long learning.
15. Understand how to effectively use resources to deliver Public Works infrastructure maintenance projects.
16. Recognize basic construction means, methods, materials and equipment employed in public works maintenance operations.
17. Understand the quality assurance & control measures employed in public works, emphasizing the importance of the need for quality and longevity of capital construction and maintenance projects
18. Recognize basic safety hazards on a construction site and standard prevention measures.

Syllabi for the courses taught by the program shall include the following:

- CLOs in relation to the Program's SLOs,
- Instructional methods,
- Topical outline,
- Method(s) of assessment of CLOs, and
- Grade performance criteria.

Interpersonal communication skills is addressed as part of the Program SLO #3. This is a critical skill that the program endeavors to incorporate across the curriculum.

### Section 3: Course Curriculum

Code	Title	Units
Required courses:		
<u>PUB 150</u>	Introduction to Public Works	3
<u>PUB 151</u>	Street Construction and Maintenance	3
<u>PUB 155</u>	Public Works Construction Inspection	3
<u>PUB 157</u>	Asphalt and Portland Cement Concrete	3
<u>PUB 160</u>	Public Administration	3
<u>PUB 164</u>	Plan Reading and Cost Estimating	3

Code	Title	Units
<u>PUB 166</u>	Supervision in Public Works	3

The PUB program is undergoing three substantial program/course modifications in line with the PUB Industry Advisory Board (IAB) guidance and recommendations.

- CORs have been reviewed by the curriculum committee in line with the 6-year cycles.
- Pre and Co requisite requirements are currently under review and pending an update in 2025.
- All program/course content has been reviewed by the Public Works IAB.
- Our program maintains the effort to ensure the program and curriculum are in the best alignment with the industry's best practices. To that end, we work with our partners from industry, our Industry Advisory Board (IAB), and our local and regional curriculum review members to help us achieve the best alignment. In so doing, we are ensuring that our students are well prepared and on the cutting edge of meeting the requirements for entry-level employment, based on the needs of the construction industry's employers within the region.

All PUB courses were modified to be offered as either face-to-face or on-line synchronous. Accessibility to online deliveries is met in the course through ensuring all documents/pages are properly formatted (headings and tables), all videos have captions, all images have alt tags, all audio files have a transcript, color contrast is compliant, and descriptive text is used.

The program employs the use of the CANVAS, the learning Management System (LMS), which is used for all classes face-to-face as well as online. The only difference between the two deliveries is that the Confer ZOOM platform is used to facilitate online synchronous class sessions.

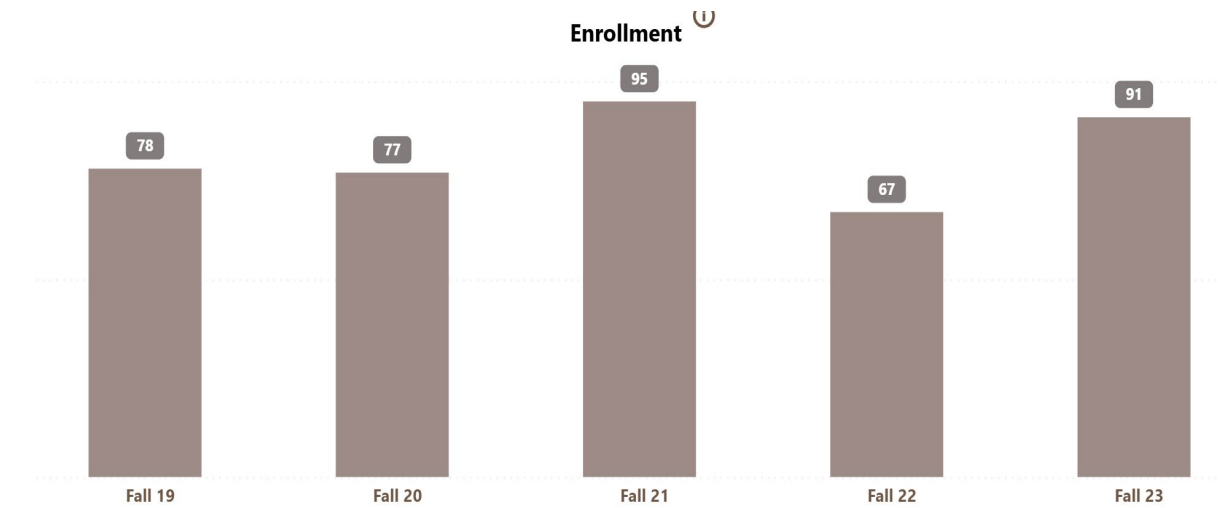
PUB students are predominantly full-time working adults who need the flexibility of late afternoon, weekends and/or evening classes. To facilitate access and inclusiveness, the program is largely an evening only program. Courses are 3-units each.

At the request of students, we are exploring hybrid formats wherein the course is delivered 70% online and 30% in person.

Section 4: Student Success Data

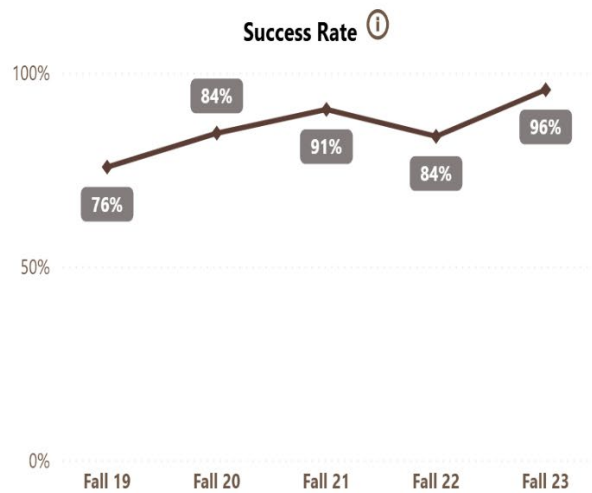
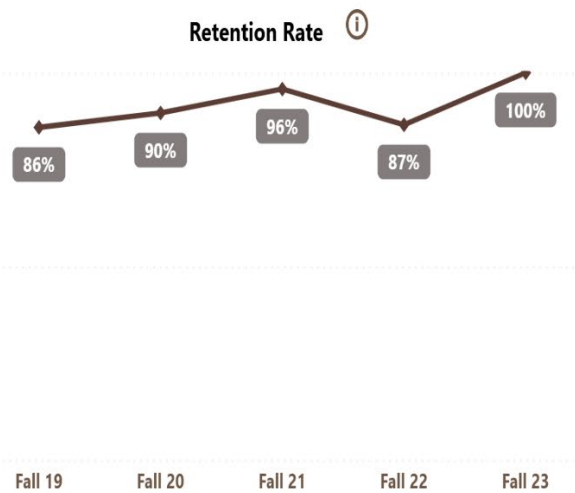
Student Enrollment –

Enrollment has been fluctuating, likely due to the program operating without a lead and active advisory board. Since the newly convened IAB when active for the year 2023-2024, we anticipate enrollment to return to a positive trend. See figure below.



Student Retention and Success –

Based on a one-year cycle, the PUB program has maintained an average of 92% student retention and a student success rate of 86%. This is trending slightly higher by comparison to the college-wide data.





## Degrees and Certificates –

Degree and certificate award rates appear to be trending well. Most awards are certificates, which are very popular within the Public Works sector. See Graph below.

PROGRAM	2019-20	2020-21	2021-22	2022-23	2023-24
<b>PUB</b>	46	9	29	36	33
<b>AS</b>	9	5	4	8	5
Public Works	9	5	4	8	5
<b>CERT</b>	13	2	10	24	26
Greenscape Maint Tech Cert0				3	2
Hardscape Maint Tech Cert0				5	5
Public Works Inspection Cert0			4	7	10
Public Works: Inspection, Supervision, and Managem...	4	2	2	6	8
Public Works: Maintenance Services	9		4	3	1
<b>SKILL AWARD</b>	24	2	15	4	2
Greenscape Maintenance Tech Skill 2	7		3		
Hardscape Maintenance Tech Skill 2	8	1	8		
Pub Works Supervision and Management Skill2	6		3	4	2
<b>Total</b>	46	9	29	36	33

## Section 5: Program-Level Student Learning Outcome Assessment

Our approach to Program-level student learning outcome assessment is five-fold:

1. Working with the Public Works Industry Advisory Board to achieve Alignment
  - Identifying Knowledge, Skills, Competencies based on industry needs/demands.
  - Identification and Development of Program SLOs
2. Initiate the Program/Curriculum modification.
3. Secure review and approval by the Curriculum Committee.
4. Maintain Continuous Improvement
5. Update the course Syllabi to include the following:
  - CLOs in relation to the Program's SLOs,
  - Instructional methods,
  - Topical outline,
  - Method(s) of assessment of CLOs, and
  - Grade performance criteria.



## PUB 150: INTRODUCTION TO PUBLIC WORKS

### Proposed Start Term

Fall 2021

### Discipline

PUB - Public Works

### Course Number

150

### Course Title

Introduction to Public Works

### Catalog Course Description

This course provides an overview of the various functions, tasks, activities and environments of the Public Works industry sector and its disciplines. Course covers the various aspects of public works construction including heavy civil construction based on current public works common practices, systems, processes, recognized standard construction documents, codes, regulations, basic means and methods, key participants, professional ethics, as well as current and future trends. Emphasis is in examining the various public works disciplines and career opportunities; helping prepare students for their public works career and serving the construction industry at large. 54 lecture hours.

### Course Purpose

Degree Applicable

### Instruction Type(s)

Lecture  
Online Education Lecture

## Course Objectives

### Course Objectives

Objective
1. Examine the key public works systems and processes.
2. Incorporate the governing state and federal regulations that influent public works construction.
3. Understand the Safety Program Management Systems in Public Works
4. Examine the Public Works Capital Improvement Programs
5. Examine the Public Works In-House Construction & Maintenance Program
6. Explain the key public works management principles and policies.
7. identify the major canons of professional ethics
8. Explain and classify different risk factors in construction projects

## Course Content

### Major Course Content

1. Introduction
2. Definition of Public Works
3. Public Works Organizations
4. The Key Players and Participants
5. Scope of Public Works construction projects
6. Public Works Projects
7. Construction and Maintenance Program
8. Systems and Processes
9. General Engineering Construction
10. Public Works Governing Documents
11. Applicable Federal and State Regulations
12. Risk and Safety in Public Works
13. Professional Ethics
14. Public Works Careers and Opportunities

## **Section 6: Assessment and Planning**

### **The PUB program strengths and weaknesses –**

- Public Works (PW) supports a sector of the job market with a broad range characteristics, diversity of students/working adults within both local and regional areas.
- The PW Program/Coursework can be tailored to meet specific industry needs and increasing demands for entry level employees within the Public Works Municipalities.
- Opportunities exist within each of the primary/typical divisions of a Public Works department including:
  - Public Works Administration
  - Public Works Construction & Maintenance
  - Public Works Capital Project Management
  - Public Works Inspection
  - Street Use Permits & Enforcement
  - Maintenance Services
  - Public Works Contract administration
  - Safety
  - Operations Manager
  - Maintenance Superintendent
- Public Works, as a subset of the general construction industry, and thus can capitalize on opportunities to optimize use of resources with the CM program.

### **Weaknesses –**

- Existing Program/Coursework for degree and certificates must be improved to align with Public Works Industry practices. This will be work in progress over the next two years.
- This is a terminal degree could be aligned with options for transfer into potentially compatible 4-year programs such as public administration and/or construction management.
- Program needs a formal support structure with appropriate leadership (PUB Program Director).

### **Opportunities –**

- Solicit strong partnerships with the Public Works Municipalities and contracting communities to identify specific and current needs, priorities and implement a realignment of the program/coursework to meet the PW sector needs.
- Establish formal, diverse and active PW Advisory Council with representation from:
  - Large, Medium and Small Public Works Municipalities
  - Contractor community
- Update program/courses to ensure alignment with the latest Public Works practices and technologies.

- Partner with specific Public Works organizations to explore viable relevant credentials that can be incorporated in the program coursework.
- Identify potential academic synergies between CTE programs.
- Explore distance learning options to enhance enrollment and retention
- Create new metrics to address projected occupational growth within both local and state.
- Explore internship opportunities to be incorporated into program

#### **Threats/Challenges –**

- Maintaining the status quo. The Public Works sector is dynamic and increasingly changing. Needed changes, if not addressed properly, may render the program obsolete (no added value for the students).
- Lack of support and funding
- Conflicting objectives between CTE programs
- Inability to address the need for dedicated program director to assume ownership of the program development and implementation

#### **Supporting DEIA Initiatives –**

From an instructors' perspective, we recognize that students are faced with many challenges. Our PUB students are largely a diverse group of working adult students, though a few are recent high school graduates. Challenges stem from both personal and professional perspectives. These include but are not limited to issues with understanding college processes, technology, scheduling, finances, lack of support systems, lack of counseling, and in major way having to balance personal, work, and college priorities. Each student is different with unique needs. As instructors, one immediate response is to clearly understand the students' needs and assist by offering coaching to the extent practical, responsible, and ethical. But most importantly, making the students aware of the available resources within the college that can assist them in addressing and overcoming their challenges.

In line with the Citrus College Diversity, Equity, Inclusion, and Accessibility (DBIA) initiatives, we are strong believers in the values of Diversity, Equity, and Inclusion (DEI) as a critical way of addressing and helping students overcome their challenges and imperative to the success of all students. In the context of a Public Works education, the instructor must fulfill all three to truly support an optimally welcoming diverse, fair, and equitable, and inclusive learning environment. This is my philosophy and approach.

With these challenges in mind, college students within the Los Angeles region are diverse and we must ensure that the learning environment is also diverse. It is our responsibility, as faculty, is to make sure we provide a welcoming educational environment that truly represents the diverse community of faculty, staff, students, and stakeholders. We can accomplish this by fostering a culture of respect, support, sharing and collaboration, free of discrimination

against any academic, socioeconomic, ethnic, religious, cultural background, disability, and sexual orientation. It is my firm belief that diversity fosters a healthy learning environment with innovation and critical thinking. We have seen first-hand how diversity in the classroom, particularly construction management classroom, adds tremendous value seeing students engaged and learning in integrated, diverse, collaborative, and multi-cultural classroom environment. Such is the modern construction management environment.

Equity and Inclusion are critical because a student's path to success is unique and each of them represents a unique way of learning. The instructor must understand the diversity within the classroom and be readily capable of identifying students' needs in terms of resources, support; and be able to readily adjust the instruction delivery to support successful learning for all students. Special needs students will require an instructor to conduct special one-on-one interaction, if necessary, to support the student to completing the class successfully.

Public Works Administration is all about people working together, collaboratively as a team. Inclusion, therefore, is a must for the classroom environment. No one student should be feeling excluded from the learning process. I am a strong advocate for inclusivity and collectivity in all that we do within the classroom, especially as it relates to in-class discussions as well as group assignments.

That said, we must continue to better understand how we, as PUB faculty, can contribute to the efforts towards eliminating any discrimination and bias in our educational environment. But also, to help students understand the various excellent resources that are available to assist them in addressing and overcoming their respective challenges.

### **Recommendations and Goals –**

This program was without an advisory board. A new Public Works industry advisory board was convened and held its first meeting on October 2023. The first substantial program modification updated the program level SLOs but additional modifications will follow as the IAB is working collaboratively to bring the program to an optimal alignment with the Public Works sector needs and demands.

#### **Recommendations/Goals:**

- Given some similarities between PUB and CM programs, explore synergies between the programs and work to optimize use of resources.
- Continue working with w existing PW Advisory Council and revamp/enhance to align with recommendations herein.
- Seek Buy-In of PW Program stakeholders (internal & external)
- Marketing of Program / Outreach to support Programs Visibility & Student Recruitment
- Developing an industry engagement plan industry and IAB, obtaining their guidance in the pursuit of program/course improvements that ensure continued alignment with Public Works' Best Practices.
- Continue efforts to explore and pursue expansion of alternative certification as a Public Works Maintenance superintendent

- Enhance program/courses w/Public Works Sector Recognized Credentials
- K-14 -- Dual Enrollment and Articulation
- Seek release time for the CM lead faculty to provide the needed, industry outreach of Construction industry programs, namely Construction Management and Public Works.
- Pursue grant opportunities.
- Optimize incorporation and use of technology (AI)
- Maintain continuous quality improvement.

**Budget Priorities –**

During this cycle, we are seeking funds to procure five document readers for use by PUB faculty conducting online classes..... \$1,000