

Year 5-6



## CPWS - Certified Public Works Supervisor



## Bachelor's degree in Highway Maintenance Management

**Year 3 & 4:** Curriculum is multi-disciplinary and taught through a resiliency, environmental and sustainability lens. Certificates available in engineering or business.

**Year 1 & 2:** General education and pre-requisite courses are taken in science and math to cement a strong technical background.

### Core Courses

Introduction to Asset Management  
Sustainability in Highway Maintenance  
Highway Maintenance Management Information Systems  
Regenerative Corridors: Solar Highways & Electrical Vehicle Charging Systems  
Resiliency of Transportation Corridors  
Pavement Types and Culverts  
Emergency Management  
Fleet Management and Robotics

Stewardship, Conservation & Environmental Impacts of Transportation Systems

### Management Courses

Human Resources  
Project Management  
Principles of Management  
Predictive Maintenance and Data Visualization

Experiential learning includes labs, internships and fieldwork

Year 3-4



## Associate's Degree in Highway Maintenance Management

### Apprenticeship to Associate Degree

Completion of an Apprenticeship provides 39 credit towards a degree at Registered Apprenticeship - College Consortium colleges. Students must complete 21 hours in the following manner:

- Communications 6 credits
- Social Science 3 credits
- Behavioral Science 3 credits
- Math and/or Science 3 credits
- Additional General Education 6 credits

### Associate Degree w/o Apprenticeship

### GE Courses

English Composition and Oral Comm.  
Intro to Psychology/Business Ethics  
Trigonometry & Algebra w/Applications  
Physics, Statistics  
American, State & Local Governments

### Highway Maintenance Courses

Introduction to Highway Maintenance  
Highway Safety  
Surveying-Intro, Station, Highway  
Soils and Storm Water Management  
GPS and GIS Fundamentals  
Construction Estimating & Management  
Inspection

Cemented Aggregate Mixtures

Sustainability & Resiliency  
Vegetation, Pollinators & Invasive Species  
Technology in Transportation Systems: Drones, ITS, Vehicle Automation

### Management Courses

Human Resources  
Asset Management  
Project Management  
Principles of Management  
Civil Engineering Capstone

Experiential learning includes internships and fieldwork

Year 1-2



## Apprenticeship or Work-Based Learning

**Year 2 Technician:** Equipment operations skills are emphasized. Training may involve simulators. Course topics are offered at an intermediate level. Certifications may be available.

**Year 1 Trainee:** Employees learn highway maintenance by working in the field. Coursework supplements the on-the-job portion and embeds certifications.

Apprenticeship provides 39 credits toward associate degree with 400 hours of paid related instruction.

### Highway Maintenance Courses

Incident Command System or National Incident Management System  
Weapons of Mass Destruction  
HAZMAT Awareness  
Hazard Communication  
Trenching & Shoring Awareness  
Confined Space Entry  
Defensive Driving  
Blood Borne Pathogens  
Promoting Workplace Safety  
OSHA Standards Part 1926  
Work Zone Traffic Certification  
Work Zone Flagging Certification  
Personal Protective Equipment

Technical Mathematics  
Hand Tools and Equipment Operation  
Basic/Intermediate Street Repair and Maintenance Including Snow Removal  
First Aid/CPR Certification  
Blueprint Reading  
Introduction to Asset Management  
Technology in Transportation Systems

Year 0



## High School Diploma

Transportation/Public Works-related career academies.