

Division of Apprenticeship Standards (DAS)

Apprenticeship Program Summary Sheet

To: Curtis Notsinneh, Chief
From: Mike Quiroz
CC: Program Planning and Review
Date: January 9, 2024

Program Name: Gavilan College Water Resource Management Apprenticeship
Industry: Advanced Manufacturing
DAS File No.: 101158
Grant Awardee: No Yes 2021-22 CAI: New & Innovative Grant

Actions:

- Proposed new apprentice program
- Existing apprenticeship program adding new occupations
- Existing apprenticeship program expanding area of operations
- Existing apprenticeship program changing work processes on approved occupations.

Labor Organizations Representing Any of the Apprentices:

None

Request for Approval under Labor Code 3075:

Gavilan College Water Resource Management Apprenticeship is not intended to train in the building and construction trades and is not eligible to dispatch apprentices to projects with public works, prevailing wage or skilled and trained workforce requirements within the meaning of Labor Code sections 1720 and 3075 and will not train or dispatch apprentices in the building and construction trades or firefighters occupations.

Comments:

Gavilan's Water Resources Management Apprentice Program will build on its existing Water Resources Management programs; address severe shortages of water/wastewater technicians; and improve equity for women and students of color in the industry. The need is based on two major factors:

1.) A growing shortage of trained water management technicians. Water/wastewater systems, municipal and industrial, are critical to the health and economic vitality of California (ASCE, 2021). However, serious challenges threaten the reliability of water/wastewater systems statewide. California faces a serious shortage of water professionals over the next decade.

California Labor Market data (retrieved, 2022) shows the state needs 1,000 new, qualified water/wastewater technicians per year; 150 per year in the Bay Area alone. This, despite the fact that jobs in water/wastewater are declining.

2.) Underrepresentation of women and Latinx students in water resources. Barely 10% of utilities workers, including water resources techs, are Latinx (Pew Center data, retrieved 2022) and, the Journal of Gender & Water (2020) reports only 15% of the workers in all water utilities jobs in the U.S. are women; lower than the worldwide total of 18% (World Bank survey, 2019). Gavilan's student body is 64% Latinx and 55%.

Gavilan College Water Resource Management Apprenticeship will oversee the apprenticeship program herein and seeks approval from the Department of Industrial Relations, Division of Apprenticeship Standards for the following:

Proposed Occupation, Wage Rate & O*Net Code:

- Wastewater Operator O*Net: 51-8031.00
Professional Worker Wage: \$38.33 per hour
Proposed Apprentice Wage: \$22.12 per hour
Proposed No. of Apprentices: 2
- Water Treatment Operator O*Net: 51-8031.00
Professional Worker Wage: \$38.33 per hour
Proposed Apprentice Wage: \$22.12 per hour
Proposed No. of Apprentices: 2

Proposed Employers:

- Silicon Valley Clean Water, 1400 Radio Rd, Redwood City, CA 94065

Gavilan College Water Resource Management Apprenticeship Program Standards

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Article I Purpose and Policy

The parties hereto declare it to be their purpose and policy to establish an organized, planned system of apprenticeship, conducted as an education sponsored, employer based undertaking. These standards have, therefore, been adopted and agreed upon under the Shelley-Maloney Apprentice Labor Standards Act of 1939, as amended, to govern the employment and training of apprentices in the trade, craft or occupation defined herein, to become effective upon their approval.

Article II Craft, Trade or Occupation, Related and Supplemental Instruction, Term of Apprenticeship, Ratio, Wage Schedule and Work Training

Occupation	O*Net Code	Attachment
Wastewater Operator	51-8031.00	B-1
Water Treatment Operator	51-8031.00	B-2

Article III Organization

There is hereby established the above-named master apprenticeship committee. The committee shall consist of 3 members, who shall be selected by and represent the employer organization(s) signatory hereto. In addition, thereto, there shall be one (1) apprenticeship consultant representing the Division of Apprenticeship Standards and one (1) advisor from the Local Education Agency and such other advisors as the committee shall determine. Such advisors and the apprenticeship consultant shall act without vote.

Article IV Jurisdiction

These standards shall apply to the employer and employee organizations signatory hereto; their members, to other employers who subscribe hereto or who are party to a collective bargaining agreement with an employee organization(s) signatory hereto, and to all apprentice agreements hereunder.

Article V Functions

The functions of the apprenticeship committee shall be to:

- 1) develop an efficient program of apprenticeship through systematic on-the-job training with related and supplemental instruction and periodic evaluation of each apprentice;
- 2) serve in an advisory capacity with employers and employees in matters pertaining to these standards;

- 3) ensure the program's ability, including financial ability, and commitment to meet and carry out its responsibilities under federal and state law and regulations applicable to the apprenticeable occupation and for the welfare of the apprentice;
- 4) aid in the adjustment of apprenticeship disputes;
- 5) develop fair and impartial selection procedures and an affirmative action plan in accordance with existing laws and regulations and apply them uniformly in the selection of applicants for apprenticeship.

Article VI Responsibilities

The responsibilities of the apprenticeship committee shall be to:

- 1) supervise the administration and enforcement of these standards;
- 2) adopt such rules and regulations as are necessary to govern the program provided that the rules and regulations do not conflict with these standards;
- 3) conduct orientations, workshops or other educational sessions for employers to explain the apprenticeship program's standards and the operation of the apprenticeship program;
- 4) pass upon the qualification of employers and, when appropriate, to suspend or withdraw approval;
- 5) conduct on-going evaluation of the interest and capacity of employers to participate in the apprenticeship program and to train apprentices on the job;
- 6) make periodic evaluations of each apprentice on-the-job training and related and supplemental instruction;
- 7) ensure safe work site facilities, skilled workers as trainers at the work site, and safe equipment sufficient to train apprentices;
- 8) determine the qualifications of apprentice applicants and ensure fair and impartial treatment of applicants for apprenticeship selected through uniform selection procedures;
- 9) file a signed copy, written or electronic, of each apprentice agreement with the Division of Apprenticeship Standards, within 30 days of execution, with copies to all parties to the agreement;
- 10) establish and utilize a procedure to record and maintain all records of the apprentice's worksite job progress and progress in related and supplemental instruction;
- 11) establish and utilize a system for the periodic review and evaluation of the apprentice's progress in job performance and related instruction;
- 12) discipline apprentices, up to and including termination, for failure to fulfill their obligations on-the-job or in related instruction, including provisions for fair hearings;
- 13) annually prepare and submit a Self-Assessment Review as well as a Program Improvement Plan to the Chief of the Division of Apprenticeship Standards;

- 14)ensure training and supervision, both on the job and in related instruction, in first aid, safe working practices and the recognition of occupational health and safety hazards;
- 15)ensure training in the recognition of illegal discrimination and sexual harassment;
- 16)establish an adequate mechanism to be used for the rotation of the apprentice from work process to work process to assure the apprentice of complete training in the apprenticeable occupation including mobility between employers when essential to provide exposure and training in various work processes in the apprenticeable occupation;
- 17)establish an adequate mechanism that will be used to provide apprentices with reasonably continuous employment in the event of a lay-off or the inability of one employer to provide training in all work processes as outlined in the standards;
- 18)comply with meaningful representation requirements for the interests of apprentices in the management of the program where apprentices are at least equally represented on an advisory panel established by the apprenticeship committee responsible for the operation of the program;
- 19)adopt changes to these standards, as necessary, subject to the approval of the parties hereto and the Chief of the Division of Apprenticeship Standards.

Article VII Definition of an Apprentice

An apprentice is a person at least 18 years of age, who has met the requirements for selection under the selection procedures of participating employer, who is engaged in learning a designated craft or trade and who has entered into a written apprentice agreement under the provisions of these standards.

Article VIII Duties of an Apprentice

Each apprentice shall satisfactorily perform all work and learning assignments both on the job and in related instruction and shall comply with the rules, regulations and decisions of the apprenticeship committee.

Article IX Apprentice Agreement

- 1) Each apprentice agreement shall conform to the State law governing apprentice agreements, and shall be signed by the employer, by the program sponsor, and by the apprentice and must be approved by the apprenticeship committee.
- 2) Each apprentice shall be furnished a copy of or be given an opportunity to study these standards before registration. These standards shall be considered a part of the apprentice agreement as though expressly written therein.

Article X Termination and Transfer of Agreements

- 1) During the probationary period, an apprentice agreement shall be terminated by the apprenticeship committee at the request in writing of either party. After such probationary period, an apprentice agreement may be terminated by the Administrator by mutual agreement of all the parties thereto or cancelled by the Administrator for good and sufficient reason.
- 2) If an employer is unable to fulfill his/her obligations to train under any apprentice agreement or in the event of a layoff, the apprenticeship committee may, with the approval of the Administrator, transfer such agreement to any other employer if the apprentice consents, and such other employer agrees to assume the obligation of said apprentice agreement.

Article XI Lay-off

- 1) If for any reason a lay-off of an apprentice occurs, the apprentice agreement shall remain in effect unless cancelled by the Administrator. However, credit for related instruction shall be given when the apprentice continues such instruction during the lay-off.
- 2) There shall be no liability on the part of the employer, the program, or the committee for an injury sustained by an apprentice engaged in schoolwork at a time when the apprentice is unemployed.

Article XII Controversies

All controversies or differences concerning apprentice agreements that cannot be adjusted locally by the apprenticeship committee or otherwise shall be submitted to the Administrator for determination.

Article XIII Certificate of Completion

- 1) In addition to previous on-the-job training and related school instruction, which is of an approved nature, the Apprentice shall have completed not less than an additional six (6) months as an apprentice under the laws of the State of California and demonstrated mastery of the skills and knowledge of the prescribed program.
- 2) In recognition of unusual ability and progress, the apprenticeship committee may decrease the term of apprenticeship for an individual apprentice not more than twelve and one-half percent (12½%).
- 3) Upon evidence of satisfactory completion of apprenticeship, and upon the recommendation of the apprenticeship committee, each apprentice will be issued a

Certificate of Completion by the authority of the Chief of the Division of Apprenticeship Standards and the Interagency Advisory Committee on Apprenticeship.

Article XIV Equal Opportunity in Apprenticeship

The recruitment, selection, employment and training of apprentices during their apprenticeship shall be without discrimination because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation or veteran or military status.

Gavilan College Water Resource Management Apprenticeship will create selection procedures that meet objective standards and maintain a fair and equitable selection process for all applicants.

Article XV Written Applications

Applications for apprenticeship will be accepted:

Apprentice applicants are required to complete a written application that will be submitted to Gavilan College Water Resources Department. Contact comes@gavilan.edu for an application

This Written application will document the applicant's academic achievement (high school diploma, GED, or equivalent); other skills or experience; and a written essay discussing their background, career goals, interests, and commitment. Written applications will be accepted year-round, but selections will be made before the start of each fall semester.

Article XVI Records

All records will be maintained, in written or electronic form, for five years and kept at:

Gavilan College Water Resource Management Apprenticeship
5055 Santa Teresa Blvd
Gilroy, CA 95020

Article XVII Annual Compliance

Gavilan College Water Resource Management Apprenticeship will submit an annual compliance report to the Division of Apprenticeship Standards as requested by the Division.

Gavilan College Water Resource Management Apprenticeship agrees to accept electronic signatures for these Division of Apprenticeship Standards and all related Division of Apprenticeship Standards documents.

The foregoing standards are hereby agreed to and adopted by Gavilan College Water Resource Management Apprenticeship on December 19, 2023 (Committee approval date).

Employer Organization

Gavilan College
5055 Santa Teresa Blvd. Gilroy, CA 95020

Catherine Miettinen Ames

Date

The foregoing apprenticeship standards, being in conformity with the applicable California Labor Code, California Code of Regulations and Federal Regulations, are hereby approved

(DAS approval date)

Curtis Notsinneh, Chief

Date

Division of Apprenticeship Standards

Attachment B-1

Training Schedule and Working Conditions

Gavilan College Water Resource Management Apprenticeship

Occupation

Occupation: Wastewater Operator
O*Net Code: 51-8031.00

Article I Term of Apprenticeship and Probation

The standard term of apprenticeship shall be 2,000 on-job-training (OJT) hours, 324 related and supplemental instruction (RSI) hours, and completed within 36 months.

The period of probation shall be reasonable in relation to the full apprenticeship term, with full credit given for such period toward completion of the apprenticeship, and in no event shall exceed the shorter of 25 percent of the length of the program or one year. The period of probation shall be six (6) months.

Article II Wage Schedule

Professional Worker Wage:

\$ \$38.33 per hour effective 1/1/2024.

Apprentice Wage and Advancement Schedule:

In no case shall an Apprentice receive a starting wage that is less than the applicable federal, state or local entity (city or county) minimum wage, whichever is higher for the county or city where the apprentice is working. The applicable minimum wage law shall establish the effective date of the minimum wage.

To advance from one period to the next, the apprentice shall have met the following requirements:

1st period	0 - 500 OJT Hours	\$ 22.12 /hour
2nd period	501 – 1,000 OJT Hours	\$ 23.23 /hour
3rd period	1,001 – 1,500 OJT Hours	\$ 24.39 /hour
4th period	1,501 – 2,000 OJT Hours	\$ 25.61 /hour

Hours of Work and Working Conditions and Overtime Provision:

Eight hours of labor constitutes a day's work. Employment beyond eight hours in any workday or more than six days in any workweek requires the employee to be compensated for the overtime at not less than one and one-half times the employee's regular rate of pay for all hours worked in excess of eight hours, up to and including 12 hours in any workday, and for the first eight hours worked on the seventh consecutive day of work in a workweek; and double the employee's regular rate of pay for all hours worked in excess of 12 hours in any workday and for all hours worked in excess of eight on the seventh consecutive day of work in a workweek. If employers utilize an alternative workweek schedule in accordance with the California Industrial Welfare Commission Orders, the overtime will be determined and paid in accordance with the applicable alternative workweek provisions.

The workday and workweek and all other conditions of employment for apprentices shall conform to all applicable laws and regulations and shall not be greater than for those of a professional worker.

Overtime shall not be allowed if it will interfere with or impair the training or be detrimental to the health and safety of the apprentice.

ARTICLE III Work-Training

- 1) The employer shall see that all apprentices are under the supervision of a qualified professional worker or instructor and shall provide the necessary diversified experience and training in order to develop the apprentice into a proficiently skilled worker, as outlined herein.
- 2) Each apprentice shall be trained in the use of new equipment, materials and processes as they come into use in the occupation.
- 3) The major categories in which apprentices will be trained (although not necessarily in the order listed) are as follows:

Work Processes	Hours
1. Facilities Operations and Maintenance: Treatment of Water and Wastewater	760 hours
1.1 Understand water and/or wastewater treatment concepts and processes and water treatment design parameters.	
1.2 Evaluate characteristics of source water and/or watershed, including normal characteristics of water and recognizing abnormal systems, compliance inspection processes, and watershed/wellhead protection.	

- 1.3 Apply technologies for water resource management, including usage, conservation, and concepts of urban water reuse.
- 1.4 Perform laboratory tasks, including collecting samples, interpreting the analysis, and performing plant processes control analysis.
- 1.5 Understand chemical application, handling, and storage procedures.
- 1.6 Diagnose and troubleshoot equipment.
- 1.7 Apply methods to prevent, identify, and/or respond to water loss or sewage overflow, including leak detection and monitoring at the plant and in the collection or distribution system.
- 1.8 Perform start-up and shut-down procedures.
- 1.9 Identify electrical and hydraulic principles.
- 1.10 Adjust chemical feed rates, flows, and operation of process units.
- 1.11 Calculate dosage rates, prepare chemical, and confirm chemical strength.
- 1.12 Perform physical measurements and process control calculations.
- 1.13 Understand principles and processes of industrial process control software and equipment, such as supervisory control and data acquisition systems

2. Field Operations: 660 hours
Operations and Maintenance of Water/Wastewater System Infrastructure

- 2.1 Operate, calibrate, maintain, troubleshoot, and diagnose system infrastructure equipment.
- 2.2 Have knowledge of cross connection control or prevention and approved backflow methods and devices.
- 2.3 Identify system infrastructure control instrumentation.
- 2.4 Differentiate between normal and abnormal operating conditions and preventive and corrective maintenance.
- 2.5 Determine the type of equipment needed to do the job.
- 2.6 Perform start-up and shut-down procedures

Public Health and Environmental Protection 360 Hours

- 3.1 Ensure adherence to all applicable federal, state, tribal, territorial, and local water, wastewater, and bio-solids laws and regulations.
- 3.2 Practice sustainability by using processes that ensure the technical, managerial, and financial capacity of the system.
- 3.3 Take measures to ensure practice of non-polluting activities that conserve energy, water, and resources and are economically efficient, and safe for workers, communities, and consumers.

- 3.4 Demonstrate awareness of the impact of the project's carbon footprint.
- 3.5 Incorporate standards and practices for achieving water and energy efficiency in all tasks
- 3.6 Communicate effectively and in a timely manner with regulatory agencies.
- 3.7 Conduct environmental, water, and energy audits.
- 3.8 Ensure compliance with environmental permits and other applicable documents.
- 3.9 Compute design specifications for implementation of conservation practices.
- 3.10 Support water conservation principles, practices, methods, and procedures.
- 3.11 Communicate with the public about key trends and issues related to safe water.
- 3.12 Demonstrate understanding of water scarcity, the lack of sufficient available water resources to meet the demands of water usage within a region, and how it can impact the sector.
- 3.13 Recommend water efficiency and conservation techniques to the public.
- 3.14 Conduct proper public health notifications as required.

Safety and Security

220 hours

- 4.1 Recognize potential causes and impacts of unsafe or insecure facility conditions.
- 4.2 Assess risks and likelihood of disasters occurring, including conducting and updating as needed Vulnerability Assessments and Emergency Response Plans.
- 4.3 Facilitate inter-agency communication and planning for emergency preparedness, response, and recovery.
- 4.4 Follow the Department of Homeland Security's Chemical Facilities Anti-Terrorism Standards regulation.
- 4.5 Understand utility participation in the Mutual Aid and Assistance Network.
- 4.6 Keep abreast of the latest scientific advances to protect drinking water and wastewater systems.
- 4.7 Utilize recommendations from industry associations.
- 4.8 Understand the potential for a cyber-attack to cause an interruption to drinking water and wastewater services and abide by the organization's water utility cyber security program.

Total Hours: 2,000

ARTICLE IV Related Instruction

Apprentices shall satisfactorily complete prescribed courses of related and supplemental instruction, which will not be less than 162 hours per year. Related and supplemental instruction will be provided by Gavilan College.

Time spent in related and supplemental instruction may not be compensated.

Courses	Hours
201: Introduction of Water/Wastewater Technology	54
202: Beginning Water/Wastewater Math 1	54
205: Water Distribution 1	54
206: Beginning Water Treatment Plant Operation	54
207: Beginning Wastewater Treatment Plant Operation	54
208: Water Distribution 2	54
209: Advanced Wastewater Treatment Plant Operation	54
211: Advanced Wastewater Plant Operation	54
 Then, select one of the following courses:	
217: Water Use Efficiency Practitioner	54
220: Pollution Prevention and Storm Water Management	54
233: Water Conservation	54
235: Pollution Prevention	54

Total Hours: 486

ARTICLE V Ratio

The ratio of apprentices to professional workers shall be:

- 1) Ratio #1: Each professional worker may supervise up to five (5) apprentice(s)

Attachment B-2

Training Schedule and Working Conditions

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O*Net Code: 51-8031.00

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