

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
UP 85	Basic Upholstery	3
UP 86	Advanced Upholstery	3
UP 88	Antique Furniture Restoration	3
UP 90	Automotive Upholstery	3
UP 95 or	Window Treatments	
UP 96	Decorator Accessories	1.5
UP 97	Upholstery Topics	1
ID 135	Fabrics for Designers	3
TOTAL UNITS		17.5

COURSE OFFERINGS

Courses taken for college credit may be applied toward a certificate or an Associate in Arts degree.

Courses numbered under 100 are not intended for transfer credit.

UP 85 Basic Upholstery (3)

1 hour lecture - 6 hours laboratory

Note: May be taken 4 times

Upholstering or replacing existing upholstery for various types of furniture. Commercial sewing machines, cushion stuffer, pneumatic tools, and hand tools will be used to complete individual projects.

UP 86 Advanced Upholstery (3)

1 hour lecture - 6 hours laboratory

Recommended preparation: UP 85

Note: May be taken 2 times

Advanced upholstery principles and techniques. Power sewing equipment, pneumatic tools, and specialized hand tools will be used to complete complex upholstery projects. Includes estimating, customer relations, tax laws, and other fundamentals of upholstery business operation.

UP 88 Antique Furniture Restoration (3)

1½ hours lecture - 4½ hours laboratory

Recommended Preparation: UP 85

Note: May be taken 2 times

Covers basic antique furniture restoration techniques, specialized tools, authentic materials, and standard terminology. Students will learn to identify style, approximate age, original fabrics, and types of exterior woods. Essential business concepts and practices will also be addressed.

UP 90 Automotive Upholstery (3)

1 hour lecture - 6 hours laboratory

Note: May be taken 2 times

Skills and techniques required to replace, repair or customize automotive and related upholstery. Fabrication of interiors and accessories for automobile interiors, watercraft and other recreational vehicles. Techniques and considerations related to auto alarm or sound system installation. Students will complete individual or group projects.

UP 95 Window Treatments (1.5)

1 hour lecture - 1½ hours laboratory

Note: May be taken 2 times

Design and fabrication of various window treatments. Includes industry standards, design and fabric options, measuring and estimating, and related business concepts. Students will complete sample projects.

UP 96 Decorator Accessories (1.5)

1 hour lecture - 1½ hours laboratory

Note: May be taken 2 times

Skills and techniques necessary for creation of a variety of decorator accessories: upholstered headboards; designer cushions; custom pillows; lampshades; duvet covers, bedspreads and dust ruffles; table runners and covers; and simple slip-covers. Includes design and fabric/materials selection, industry standards, cost estimating/pricing and other business considerations. Students will complete individual projects.

UP 97 Upholstery Topics (.5 - 4)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture or laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 3 times

Topics in upholstery. See Class Schedule for specific topic offered. Course title will designate subject covered.

Wastewater Technology Education (WWT)

Contact Occupational & Noncredit Programs for further information.

(760) 744-1150, ext. 2284

Office: AA-136

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).

• Wastewater Technology Education

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

• Wastewater Technology Education

PROGRAM OF STUDY**Wastewater Technology Education**

Specifically designed for individuals employed by or seeking employment in water districts in San Diego County.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

Program Requirements		Units
WWT 100	Treatment Plant Operations	3
WWT/WTE 110	Waterworks Mathematics	3
WWT/WTE 120	Instrumentation and Controls	3
WWT/WTE/		
PWM 125	Supervision	3
WWT 150	Collection Systems Operator	3
WWT 155	Treatment Process Control	3
WWT/WTE 215	Motors/Pumps/Oper/Maintenance	3
Electives (Select 6 units)		
WWT/WTE 135	Backflow Prevention	3
WWT/WTE 138	Cross Connection Specialist	3
WWT 197	Wastewater Tech Education Topics	.5-4
WWT/WTE 225	San Diego Regional Internship	4-8
CE 100*	Cooperative Education	3-4
TOTAL UNITS		27

*Cooperative Education must be related to this major.

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

WWT 100 Treatment Plant Operations (3)

3 hours lecture

Note: May be taken 4 times

An introductory wastewater treatment plant operations course. Topics covered include: the various origins and characteristics of wastewater; an overview of wastewater collections systems; preliminary treatment; primary treatment; fixed film secondary biological treatment processes; treatment ponds and disinfection. Emphasis is given to the role of the operator and preparation for solving practical problems and problems typical of those found in Operator Certification examinations.

WWT 110 Waterworks Mathematics (3)

3 hours lecture

Note: Cross listed as WTE 110; may be taken 4 times

Provides instruction in entry-level to intermediate-level mathematical calculations used in the operation and evaluation of conventional water/wastewater treatment processes and water distribution systems. The course content has been developed to meet requirements for entry to water/wastewater education program courses. Course will cover basic geometry, metric conversions, flows, pressure, and chemical dosage as it relates to the water/wastewater industry. Material will parallel some of the problems found on State Certification examinations.

WWT 120 Instrumentation and Controls (3)

3 hours lecture

Prerequisite: A minimum grade of 'C' in WTE/WWT 110**Note:** Cross listed as WTE 120; may be taken 4 times

Introduction to basic electrical theory, applications, common uses, and real world examples of control systems and instrumentation used in water distribution, water and wastewater treatment plants; including switches, relays, alarms, motors, instrumentation, valve actuators, computers, and communication.

WWT 125 Supervision (3)

3 hours lecture

Note: Cross listed as WTE 125/PWM 125

Supervisory aspects of public agencies including organization, decision making, coordination, communication, and public relations. Personnel supervision including coaching, training, evaluation, discipline, team building, morale, and grievances. Safety programs and encouraging safe conditions, actions and attitudes.

WWT 135 Backflow Prevention (3)

2½ hours lecture - 1½ hours laboratory

Note: Cross listed as WTE 135; may be taken 4 times

Provides intensive training focused on the field testing procedure for backflow prevention devices and training in the recognition and abatement of cross connections in water and plumbing systems. Students will acquire the knowledge, skills, and abilities required to test as a certified backflow tester.

WWT 138 Cross Connection Specialist (3)

3 hours lecture

Recommended preparation: WTE/WWT 135**Note:** Cross listed as WTE 138; may be taken 4 times

The study of the various levels of administrative and technical procedures necessary to operate a cross connection control program. Students will obtain the knowledge to become certified as a "Cross Connection Control Specialist" under the provisions set forth by the American Water Works Association.

WWT 150 Collection Systems Operator (3)

3 hours lecture

Note: May be taken 4 times

Wastewater collection systems and collection system equipment, pipeline cleaning and maintenance, system design, safety procedures, inspecting and testing procedures used in collections systems.

WWT 155 Treatment Process Control (3)

3 hours lecture

Recommended preparation: WWT/WTE 110**Note:** May be taken 4 times

A wastewater treatment and disposal course with an emphasis on control of these processes. Topics covered include: the activated sludge secondary treatment process and its variations; sludge digestion, treatment and disposal; safety and housekeeping; maintenance and an overview of effluent disposal, tertiary treatment and reclamation. Emphasis is also given to the role of the operator and provides preparation for solving process control calculations and problems typical of those found in Operator Certification examinations.

WWT 197 Wastewater Technology Education Topics (.5 - 4)

Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

Topics in Wastewater Technology Education. See Class Schedule for specific topic offered. Course title will designate subject covered.

WWT 215 Motors and Pumps, Operation and Maintenance (3)

3 hours lecture

Recommended preparation: WTE/WWT 110**Note:** Cross listed as WTE 215; may be taken 4 times

Identification of problems encountered, causes of problems, corrective solutions, and repairs in the operation of pumps and motors. Implementation of maintenance programs including scheduling and recordkeeping.

WWT 225 San Diego Regional Internship (4)

12 hours laboratory

Note: Cross listed as WTE 225; Pass/No Pass grading only; may be taken 4 times

Provides students with the opportunity to gain work experience in San Diego County water and wastewater agencies through a formal internship. Over the course of 33 weeks, corresponding with fall and spring semesters, the intern will experience four career modules: system operations, system maintenance, water treatment, and wastewater treatment. Students must apply and be accepted by a regional interview committee comprised of representatives from San Diego County water and wastewater agencies and Cuyamaca and Palomar community colleges.

Water Technology Education (WTE)

Contact Occupational & Noncredit Programs for further information.

(760) 744-1150, ext. 2284

Office: AA-136

Associate in Arts Degrees -

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- Water Technology Education

Certificates of Achievement -

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- Water Technology Education

PROGRAM OF STUDY**Water Technology Education**

Specifically designed for individuals employed by or seeking employment in water districts in San Diego County.

A.A. DEGREE MAJOR OR CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
WTE 100	Waterworks Distribution	3
WTE 105	Water Treatment Plant Operation I	3
WTE/WWT 110	Waterworks Mathematics	3
WTE/WWT 120	Instrumentation and Controls	3
WTE/WWT/		
PWM 125	Supervision	3
WTE 150	Water Quality Monitoring	3
WTE/WWT 215	Motors/Pumps/Oper/Maintenance	3
Electives (Select 9 units)		
WTE/WWT 135	Backflow Prevention	3
WTE/WWT 138	Cross Connection Specialist	3
WTE 197	Water Technology Education Topics	.5-4
WTE 205	Waterworks Distribution II	3
WTE 210	Water Treatment Plant Operation II	3
WTE/WWT 225	San Diego Regional Internship	4-8
CE 100*	Cooperative Education	3,4
TOTAL UNITS		30

* Cooperative Education must be related to this major.