

**THEA 27 Fundamentals of Lighting**

Units: 3.0 Hours: 3.0 Lecture

This course involves the study and execution of stage lighting with emphasis on equipment operation, color and their relationship to design. (C-ID: THTR 173)

**THEA 29 History of American Musical Theatre**

Units: 3.0 Hours: 3.0 Lecture

Transferable: CSU-GE:C1, IGETC:3A, GAV-GE:C1, GAV-GE:C2

A survey of the essential artists who produce, write, direct and perform on America's musical stages. Course surveys 17th Century to Present.

**THEA 30 Dance Appreciation**

Units: 3.0 Hours: 3.0 Lecture

Transferable: CSU-GE:C1, GAV-GE:C1

Students will explore dance from an aesthetic, historic, and cultural point of view. Students will examine the elements of dance including body, space, time, and dynamic qualities and develop a vocabulary with which to analyze and write critically about dance. Dance will be explored in many of its genres including social dance, jazz dance, ballet, modern, and dance from cultures around the globe. Attendance at a live dance performance is required.

**THEA 31 Improvisation**

Units: 2.0 Hours: 1.0 Lecture and 3.0 Laboratory

Transferable: CSU

Improvisation is a Theatre Course designed to provide the student training in body movement, voice techniques, stage presence, spontaneity, acting techniques and character development.

**THEA 98 Special Topics**

Units: .5 TO 3.0 Hours: .5 TO 3.0 Lecture

Special topics courses examine current problems or issues of interest to students within a specific discipline area. For topical content information, consult with the appropriate department chairperson. For transfer status, check with a counselor. This course may have the option of a letter grade or pass/no pass.

**WTRM 103 Introduction to Electrical and Instrumentation Processes**

Units: 3.0 Hours: 3.0 Lecture

Introduction to basic electrical theory, applications, common uses and real world control systems and instrumentation used in water distribution, water, and wastewater plants including switches, relays, alarms, motors, instrumentation, valve actuators, communications. ADVISORY: WTRM 101 Introduction to Water-Wastewater Technology; 102 Beginning Water-Wastewater Mathematics.

**WTRM 104 Motors and Pumps, Operation and Maintenance**

Units: 3.0 Hours: 3.0 Lecture

Theory of pumps and motors. Identification of problems encountered, causes of problems, solutions and repair procedures. Implementation of maintenance programs including safety and record keeping. ADVISORY: WTRM 101 Introduction to Water-Wastewater Technology; WTRM 102 Beginning Water-Wastewater Mathematics.

**WTRM 105 Water Distribution 1**

Units: 3.0 Hours: 3.0 Lecture

This is a comprehensive course that teaches basic principles of operation and maintenance of a water distribution system. It course covers the sources of water; principles of design; inst

**WATER RESOURCES MANAGEMENT****WTRM 101 Introduction to Water, Wastewater Technology**

Units: 3.0 Hours: 3.0 Lecture

This course constitutes an introduction to Water-Wastewater- Distribution Industry. Topics include industry careers, required conditions, hydrologic cycle, watersheds, water/wastewater treatment methods, valves and equipment, as well as industry standard math formulas and conversion factors. ADVISORY: Eligible for Mathematics 205.

**WTRM 102 Beginning Water, Wastewater, Distribution Math**

Units: 3.0 Hours: 3.0 Lecture

This course covers basic math concepts used in the water- wastewater-distribution industry. Topics include industry standard formulas, conversion factors, fractions, decimals, percentages, ratios, area and volume. ADVISORY: Eligible for Mathematics 205.

**WTRM 109 Advanced Water Treatment Plant Operation**

Units: 3.0 Hours: 3.0 Lecture

This course focuses on advanced water quality control and treatment with emphasis on state regulations, EPA regulations, advanced mathematics and water chemistry. The course will include an in-depth study of treatment plant processes and their relation to current water quality regulations. This course will be helpful to those preparing for the CDPH Grade T3 and T4. ADVISORY: WTRM 102 Beginning Water/Wastewater Mathematics; WTRM 106 Beginning Water Treatment Plant Operation.

**WTRM 111 Advanced Wastewater Treatment Plant Operation**

Units: 3.0 Hours: 3.0 Lecture

This course is designed to familiarize students with advanced wastewater treatment systems, including secondary and tertiary treatment, solids handling, disinfection, reclamation of wastewater, as well as laboratory study. The course prepares students for the CSWRB Wastewater Treatment Plant Operator examinations. ADVISORY: WTRM 101 Introduction to Water/Wastewater Technology; WTRM 107 Beginning Wastewater Treatment Operation.

**WTRM 112 Applied Hydraulics**

Units: 3.0 Hours: 3.0 Lecture

Study of the hydraulics necessary in the operation of water and maintenance plants and systems. Consideration of the types of pumps used in water/wastewater service, their operational characteristics, required maintenance and the problems common to their use. ADVISORY: WTRM 101 Introduction to Water/Wastewater Technology; WTRM 102 Beginning Water/Wastewater Mathematics.

**WTRM 113 Beginning Wastewater Collection**

Units: 3.0 Hours: 3.0 Lecture

This course covers the proper installation, inspection, operation, maintenance and repair of wastewater collection systems. It provides the knowledge and skills required to effectively operate and maintain collection systems. This course also provides knowledge as to why collection systems affect treatment facilities and how they have a significant impact on the operation and maintenance costs and effectiveness of these systems. ADVISORY: WTRM 101 Introduction to Water/Wastewater Technology; WTRM 102 Beginning Water/Wastewater Mathematics.

**WTRM 114 Laboratory Analysis for Water, Wastewater**

Units: 3.0 Hours: 3.0 Lecture

This course is designed to support and understanding and application of water quality laboratory basics in a practical setting. It prepares students to perform chemical, physical and bacteriological examination of water and wastewater. ADVISORY: WTRM 102 Beginning Water/Wastewater Mathematics or Eligible for Mathematics 205.

**WTRM 132 Advanced Water Distribution**

Units: 3.0 Hours: 3.0 Lecture

This advanced level course prepares students for work in a highly skilled or supervisory position in the operation of a water distribution system. It prepares the student to take the State of California Water Distribution Operator exam at D3, D4, and D5 levels. ADVISORY: WTRM 105 Water Distribution 1, WTRM 108 Water Distribution 2, WTRM 102 Beginning Water/Wastewater Mathematics.

**WTRM 133 Water Conservation**

Units: 3.0 Hours: 3.0 Lecture

This course provides technical and practical information in water use efficiency, the need for and major components of comprehensive water conservation programs and the role of the water conservation coordinator in the public water supply industry. Topics include: customers and their water uses, water sustainability factors, regulatory agencies and careers/opportunities in the field of water management. This class will help the student prepare for the AWWA Grade 1 Water Conservation Practitioner Certification.

**WTRM 134 Industrial Wastewater and Stormwater Management**

Units: 4.0 Hours: 4.0 Lecture

This course is designed to provide an overview of water/ wastewater regulations with an emphasis on local, state, and federal regulatory standards. The study of the principles of wastewater and stormwater management including hydrology, water distribution, wastewater collection, stormwater management, and safe drinking water issues will be covered along with an introduction to the one water management concept.

**WTRM 190 Occupational Work Experience, Water, Wastewater Technology**

Units: 1.0 TO 4.0 Hours: 3.3 TO 16.7 Laboratory

Occupational work experience for students who have a job related to their major. A training plan is developed cooperatively between the employer, college and student. (P/NP grading) 75 hours per semester paid work = 1 unit. 60 hours non-paid (volunteer) work per semester = 1 unit. Student repetition is allowed per Title 5 Section 55253. Minimum 2.00 GPA REQUIRED: Declared vocational major.

**WTRM 210 Advanced Water / Wastewater / Distribution Math**

Units: 3.0 Hours: 3.0 Lecture

This course is a continuation of the Beginning Water/Wastewater Mathematics course WTRM 202 and covers advanced math concepts used in the Water/Wastewater/Distribution industry. Topics include industry standard formulas, conversion factors, MCRT, SVI, waste/return, horsepower, well

