

San Bernardino Valley College
Curriculum Approved: 11/25/2013
Board Approval: 01/16/2014
Unique course Identification Number: CCC000552614
TOP Code: 0958.00 - Water and Wastewater Tech

I. CATALOG DESCRIPTION:

A. Department Information:

Division: Applied Technology, Transportation & Culinary Arts
Department: WATER SUPPLY TECHNOLOGY
Course ID: WST010
Course Title: Test Review for Water Distribution Operators D1
Units: 0.5
Lecture: 0.5 contact hour(s) per semester

Departmental Advisory:

WST 052

Prerequisite:

WST 061

B. Catalog Description:

This course is a review of the expected Range of Knowledge (ROK) required to obtain the California Department of Public Health (CDPH) Distribution Operator License at level D1. The review topics include distribution system operations, disinfection, related mathematics and safety.

C. Schedule Description:

This course is a review of the expected Range of Knowledge (ROK) required to obtain the California Department of Public Health (CDPH) Distribution Operator License at level D1. The review topics include distribution system operations, disinfection, related mathematics and safety.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. COURSE OBJECTIVES FOR STUDENTS:

Upon successful completion of the course the student should be able to:

- A. Identify the Range of Knowledge (ROK) required to successfully pass the California Department of Public Health (CDPH) Distribution Operator License examination at the D1 level
- B. Identify reliable sources of information which are likely to contain accurate information about water distribution
- C. Identify what information is needed to successfully pass licensing examination and understand how it is organized to find the best sources of information

IV. COURSE CONTENT:

- A. Operator certification requirements

5. Lead and copper rule
 6. Public notification
 7. Monitoring and sampling requirements
 8. Coliform groups - occurrences and significance
 9. Potential waterborne diseases
 10. Disinfection by-products, (i.e. Trihalomethanes)
- F. Disinfection
1. Chlorine containers
 2. Hazards and safety precautions
 3. Standard disinfection methods for new/repared mains and storage facilities
 4. Chlorine demand, dosage and residual
- G. Safety
1. CAL-OSHA safety regulations
 2. Traffic control
 3. Trenching and shoring
 4. Confined spaces

V. METHODS OF INSTRUCTION (May include any, but do not require all, of the following):

- A. Lecture
- B. Use of films, videotapes, or other media
- C. Use of written materials: texts, journals, etc.
- D. Instructor generated handouts

VI. TYPICAL OUT-OF-CLASS ASSIGNMENTS:

- A. Reading assignments are required and may include (but are not limited to) the following:

Read the handout on "Expected Range of Knowledge for Water Distribution Operator" published by the California Department of Public Health and be prepared for a class discussion.

- B. Critical thinking assignments are required and may include (but are not limited to) the following:

A 32-foot diameter tank, 20-feet tall is 60% full. Calculate the amount of water, in gallons, contained in the tank.

- C. Writing assignments are required and may include (but are not limited to) the following:

List the types of water storage facilities commonly used to store potable water. Be prepared to present the advantages and disadvantages of each type of facility to your class.

San Bernardino Valley College
Curriculum Approved: 04/28/2014
Board Approval: 06/12/2014
Unique course Identification Number:
TOP Code: 0958.00 - Water and Wastewater Tech

I. CATALOG DESCRIPTION:

A. Department Information:

Division: Applied Technology, Transportation & Culinary Arts
Department: WATER SUPPLY TECHNOLOGY
Course ID: WST025
Course Title: Test Review for Wastewater Treatment Plant Operations Grades One and Two
Units: 0.5
Lecture: 0.5 contact hour(s) per week
8 - 9 contact hours per semester

Departmental Advisory:
WST 052 or WST 053
Prerequisite:
WST 091

B. Catalog Description:

This course is a review of the expected knowledge for a minimally competent Wastewater Treatment Plant Operator as determined by State Water Resources Control Board (SWRCB) treatment operator certification at the Grades I and II level. The review topics include wastewater treatment operations, disinfection, related mathematics, and safety.

C. Schedule Description:

This course is a review of the expected knowledge for a minimally competent Wastewater Treatment Plant Operator as determined by State Water Resources Control Board (SWRCB) treatment operator certification at the Grades I and II level. The review topics include wastewater treatment operations, disinfection, related mathematics, and safety.

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. COURSE OBJECTIVES FOR STUDENTS:

Upon successful completion of the course the student should be able to:

- A. Identify the expected knowledge required to successfully pass the SWRCB Wastewater Treatment Operator examination at the Grade I or II level
- B. Identify what information is needed to successfully pass licensing examination and understand how it is organized to find the best sources of information

IV. COURSE CONTENT:

1. pH
 2. Biochemical Oxygen Demand (BOD)
 3. Chlorine residual
 4. Dissolved oxygen
 5. Coliform bacteria
- M. Solve wastewater related math problems
1. Volume and surface areas
 2. Flow and velocity
 3. Overflow rates
 4. Pumping rates
 5. Detention time
 6. Solids concentration
 7. Removal efficiency (percent removal)
 8. Recirculation ratios
 9. Chlorine residual, demand, feed

V. METHODS OF INSTRUCTION (May include any, but do not require all, of the following):

- A. Lecture
- B. Use of films, videotapes, or other media
- C. Use of written materials: texts, journals, etc.
- D. Instructor generated handouts

VI. TYPICAL OUT-OF-CLASS ASSIGNMENTS:

- A. Reading assignments are required and may include (but are not limited to) the following:
Review the handouts provided and be prepared to answer questions in class on the importance of treating wastes and its overall impact on human health.
- B. Critical thinking assignments are required and may include (but are not limited to) the following:
A wastewater treatment pond has an average length of 705 feet with an average width of 450 feet. If the flow rate to the pond is 290,000 gallons each day, and is operated at a depth of 5.8 feet, what is the hydraulic detention time in days?
- C. Writing assignments are required and may include (but are not limited to) the following:
Define the major categories of wastewater treatment processes and in one paragraph describe the purpose of each.

VII. METHODS OF EVALUATION

- A. Presentations (oral or visual)
- B. Written papers or reports

VIII. TYPICAL TEXT(S):