

# Class “B” Wastewater Operators Training

## Common Course Syllabus

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### I. COURSE NAME AND DESCRIPTION, CREDIT:

#### **CLASS “B” WASTEWATER OPERATORS TRAINING                      CERTIFICATE OF COMPLETION**

This course prepares the student for the Class “B” Wastewater License State Exam, as well as, provides the student with the operational skills necessary to safely operate and maintain advanced wastewater treatment facilities. Topics to be covered include problem solving, safety practices and mathematical calculations relating to wastewater treatment process control. Additional topics covered include teamwork, communication, motivation and evaluation. Successful completion of this course: requires a grade of “C” or better as evidenced by the final exam; culminates in the receipt of a certificate of completion; and satisfies the Florida Department of Environmental Protection’s course prerequisite for taking the State Wastewater Class “B” Exam. The course will be a combination of lecture, demonstration, and plant visitation.

### II. PREREQUISITES FOR THIS COURSE:

- Possession of a valid Class “C” Wastewater License, or successful completion of a Class “C” Wastewater Operators course.
- Possession of a High School Diploma or GED.

### III. GENERAL COURSE INFORMATION: Topic Outline

- Operator Responsibilities
- Odor Control
- Filtration
- Laboratory Procedures
- Advanced Nutrient Removal Techniques
- Treatment Plant Calculations
- Membrane Treatment
- Reuse Systems
- Wastewater Regulations
- Plant Supervision

### IV. LEARNING GOALS AND ASSESSMENT:

At the conclusion of this course, students will be able to demonstrate the following course competencies:

#### LEARNING GOALS

Students will identify, evaluate and solve problems related to plant operations and wastewater treatment.

Students will recognize the need for and apply appropriate safety procedures.

Students will apply team building, communication, and motivational skills.

Students will identify the legal requirements of local and federal legislation such as, wastewater regulations.

Students will recognize the importance of practicing effective laboratory procedures.

Students will practice effective oral and written communications skills.

Students will identify and apply the guidelines of plant maintenance.

#### ASSESSMENT

Quiz, end of course exam

Quiz, end of course exam

Quiz, end of course exam

Quiz, end of course exam

Quiz, end of course exam

Quiz, end of course exam

Quiz, end of course exam

**V. STUDENT REQUIREMENTS:**

- Students are required to attend all classes, and any scheduled plant visitations.
- The Minimum attendance is 106 class hours, any less will result in an incomplete and no certificate will be issued.
- The student is responsible for knowing all materials covered during any absence.
- The student is required to complete all assigned reading and writing assignments.
- During this course, there will be four quizzes, one pre-final, and one final exam.
- Exams will be given at assigned class start times.
- The time limit for chapter quizzes will vary.
- The time limit for the final exam is 3 hours.
- Each student must have a functioning computer equipped with a working Video camera and microphone and or headset.

**VII. GRADING POLICY:**

- Each student's final course average will be weighted as follows: Quizzes 10 %; Final Exam 90%
- A minimum grade of 70 on the final is required to pass the class and receive a certificate of completion.
- Scoring Range:  
A: 90 – 100            B: 80 – 89            C: 70 -79            D: 60 – 69            F: Below 60

**VIII. REQUIRED COURSE MATERIALS:**

"Advanced Waste Treatment (A Field Study Training Program)"; Fifth Edition. Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento

"Utility Management (A Field Study Program)"; Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento

**VIV. ADDITIONAL RESOURCES:**

"Operation of Wastewater Treatment Plants (A Field Study Training Program)"; Volume 1, Seventh Edition. Office of Programs, College of Engineering and Computer Science, California State University, Sacramento

"Operation of Wastewater Treatment Plants (A Field Study Training Program)"; Volume 2, Seventh Edition. Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento

"Operation and Maintenance of Wastewater Collection Systems (A Field Study Training Program)"; Volume 1, Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento

"Operation and Maintenance of Wastewater Collection Systems (A Field Study Training Program)"; Volume 2, Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento.

The Florida Department of Environmental Protection Web site for Rules and Regulations. [Florida DEP Water Resource Management Rules by Program](http://www.dep.state.fl.us/water/rulesprog.htm#ww) <http://www.dep.state.fl.us/water/rulesprog.htm#ww>

**X. COURSE SCHEDULE:**

<b>Class Day</b>	<b>Topic</b>	<b>Required Reading</b>
Day 1	Odor Control	Chapter 1 AWT
Day 2	Activated Sludge (Pure Oxygen Plants and Operational Control Devices)	Chapter 2 AWT
Day 3	Residuals Solids Management	Chapter 3 AWT
Day 4	Quiz / Solids Removal from Secondary Effluents	Chapters 1-3 AWT / Chapter 4 AWT
Day 5	Phosphorus Removal	Chapter 5 AWT
Day 6	Phosphorus Removal / Nitrogen Removal	Chapter 5 AWT / Chapter 6 AWT
Day 7	Nitrogen Removal	Chapter 6 AWT
Day 8	Quiz / Enhanced Biological (Nutrient) Control	Chapters 4-6 AWT / Chapter 7 AWT
Day 9	Enhanced Biological (Nutrient) Control	Chapter 7 AWT
Day 10	Wastewater Reclamation and Reuse	Chapter 8 AWT
Day 11	Wastewater Reclamation and Reuse	Chapter 8 AWT
Day 12	Instrumentation and Control Systems	Chapter 9 AWT
Day 13	Instrumentation and Control Systems	Chapter 9 AWT
Day 14	Quiz	Chapters 7-9 AWT
Day 15	Activated Sludge Plants	Chapter 11 Vol. 2
Day 16	Activated Sludge Plants	Chapter 11 Vol. 2
Day 17	Sludge Digestion and Solids Handling	Chapter 12 Vol. 2
Day 18	Sludge Digestion and Solids Handling	Chapter 12 Vol. 2
Day 19	Effluent Discharge, Reclaimed and Reuse	Chapter 13 Vol. 2
Day 20	Effluent Discharge, Reclaimed and Reuse	Chapter 13 Vol. 2
Day 21	Equipment Maintenance	Chapter 15 Vol. 2
Day 22	Equipment Maintenance	Chapter 15 Vol. 2
Day 23	Quiz	Chapters 11-13, 15 Vol. 2
Day 24	Plant Supervision	Utility Management, Chapters 1-4
Day 25	Plant Supervision	Utility Management, Chapters 5-9

Day 26	Plant Supervision	Utility Management, Chapters 10-14
Day 27	Safety and Security	Chapter 14 Vol. 2
Day 28	Safety and Security	Chapter 14 Vol. 2
Day 29	Quiz	Utility Management Chapters 1-14 / Chapter 14 Vol. 2
Day 30	Course Review	All Covered Materials
<b>Day 31</b>	Course Review	All Covered Materials
Day 32	Course Review	All Covered Materials
Day 33	<b>Course Review</b>	All Covered Materials
Day 34	Pre-final Tune Up Test	All Covered Materials
Day 35	Course Review	All Covered Materials
Day 36	Final Exam	All Covered Materials