Class "B" Drinking Water Operators Training

Common Course Syllabus

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OFFICE HOURS: TBA SEMESTER:

I. COURSE NAME AND DESCRIPTION, CREDIT:

CLASS "B" WATER OPERATORS TRAINING CERTIFICATE OF COMPLETION

This course prepares the student for the Class "B" Drinking Water License State Exam, as well as, provides the student with the operational skills necessary to safely operate and maintain advanced drinking water treatment facilities. Topics to be covered include problem solving, safety practices and mathematical calculations relating to water 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 Drinking Water Class "B" Exam. This course will be a combination of lecture, demonstration, and plant visitation.

II. PREREQUISITES FOR THIS COURSE:

- Possession of a valid Class "C" Drinking Water License, or successful completion of a Class "C" Drinking Water Operators course.
- Possession of a High School Diploma or GED.

III. GENERAL COURSE INFORMATION: Topic Outline

- Operator Responsibilities
- Filtration
- Laboratory Procedures
- Membrane Treatment
- Drinking Water 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	<u>ASSESSMENT</u>
Students will identify, evaluate and solve problems related to plant operations and water treatment.	Quiz, end of course exam
Students will recognize the need for and apply appropriate safety procedures.	Quiz, end of course exam
Students will apply team building, communication, and motivational skills.	Quiz, end of course exam
Students will identify the legal requirements of local and federal legislation such as, drinking water regulations.	Quiz, end of course exam
Students will recognize the importance of practicing effective laboratory procedures.	Quiz, end of course exam
Students will practice effective oral and written communications skills.	Quiz, end of course exam
Students will identify and apply the guidelines of plant maintenance.	Quiz, end of course exam

V. <u>STUDENT REQUIREMENTS:</u>

- 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 and one final exam.
- Exams will be given at assigned class start times.
- The time limit for chapter quizzes is one hour.
- The time limit for the final exam is two and one half hours.

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:

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

"Water Treatment Plant Operation (A Field Study Training Program)"; Volume 2 Sixth 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:

<u>Water Distribution System Operation and Maintenance (A Field Study Training Program)</u>"; Volume 1, Fifth Edition; Office of Water Programs, College of Engineering and Computer Science, California State University, Sacramento.

"Water Distribution System Operation and Maintenance (A Field Study Training Program)"; Volume 2, Fifth Edition; 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. <u>Florida DEP Water Resource Management Rules</u> by <u>Program http://www.dep.state.fl.us/water/rulesprog.htm#ww</u>

X. COURSE SCHEDULE:

Class Day	Торіс	Required Reading
Day 1	The Plant Operator	Chapter 1
	Water Sources and Treatment	Chapter 2
Day 2	Reservoir Management and Intake Structures / Coagulation and Flocculation	Chapter 3 Chapter 4
Day 3	Sedimentation	Chapter 5
	Filtration	Chapter 6
Day 4	Quiz / Disinfection	Chapters 1 – 6 / Chapter 7
Day 5	Disinfection	Chapter 7
	Corrosion Control	Chapter 8
Day 6	Taste and Odor Control	Chapter 9

	Plant Operations	Chapter 10
Class Day	Торіс	Required Reading
Day 7	Quiz / Laboratory Procedures	Chapters 7-10 / Chapters 11, 21 Vol. 2
Day 8	Laboratory Procedures / Iron and	Chapters 11, 21 Vol. 2
	Manganese Control	Chapter 12
Day 9	Fluoridation / Softening	Chapter 13 / Chapter 14
Day 10	Specialized Treatment (THM's and Arsenic Removal)	Chapter 15
Day 11	Plant Visit	ТВА
Day 12	Quiz/Membrane Treatment	Chapters 11-15, 21 / Chapter16
Day 13	Process Waste Disposal / Plant Maintenance	Chapter 17 / Chapter 18
Day 14	Instrumentation and Control / Safety	Chapter 19 / Chapter 20
Day 15	Treatment Plant Math	Handout
Day 16	Treatment Plant Trouble Shooting	Handout
Day 17	Plant Visit	TBA
Day 18	Quiz / Drinking Water Regulations	Chapters 16-20, Handouts / DEP Rules Handout, Chapter 22
Day 19	Drinking Water Regulations	DEP Rules Handout, Chapter 22
Day 20	Plant Supervision	Chapter 23, Utility Management, Chapters 1 - 4
Day 21	Plant Supervision	Chapter 23, Utility Management, Chapters 5 - 9
Day 22	Plant Supervision	Chapter 23, Utility Management, Chapters 10 -14
Day 23	Quiz/ Course Review	Chapters 22,23; 1-14 Utility Management / All Covered Materials
Day 24	Course Review	All Covered Materials
Day 25	Course Review	All Covered Materials
Day 26	Course Review	All Covered Materials
Day 27	Final Exam	All Covered Materials