Class "C" Wastewater Operators Training

Common Course Syllabus

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OFFICE HOURS: TBA SEMESTER:

. COURSE NAME AND DESCRIPTION, CREDIT:

CLASS "C" WASTEWATER OPERATORS TRAINING CERTIFICATE OF COMPLETION

This course prepares the student for the Class "C" Wastewater License State Exam, as well as, provides the student with the practical skills necessary to safely operate and maintain various wastewater treatment systems and appurtenances. Topics to be covered include operational problem solving, plant safety and maintenance. Additional topics covered include operational procedures and mathematical calculations relating to wastewater treatment process control. 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 "C" Exam. The course is a combination of lecture, demonstrations, and plant visits.

II. PREREQUISITES FOR THIS COURSE:

• Possession of a High School Diploma or GED.

III. GENERAL COURSE INFORMATION: Topic Outline

- Plant Operations
- Types of Wastewater Treatment
- Pre-treatment
- Solids Disposal and Handling
- Chlorination
- Laboratory Procedures
- Safety and Maintenance
- Wastewater Regulations

IV. LEARNING GOALS AND ASSESSMENT:

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

LEARNING GOALS	ASSESSMENT
Students will use the appropriate strategies to solve problems related to plant operations	Quiz end of course exam
and wastewater treatment.	
Students will apply appropriate safety procedures.	Quiz end of course exam
Students will identify the legal requirements of local and federal legislation such as,	Quiz end of course exam
wastewater regulations.	
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 guizzes is one hour.
- The time limit for the final exam is three 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:

<u>"Operation of Wastewater Treatment Plants, Vol 1, 8th Edition, 2019</u>. Office of Water 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

VIV. ADDITIONAL RESOURCES:

"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 Regulation

Florida DEP Water Resource Management Rules by Program

http://www.dep.state.fl.us/water/rulesprog.htm#ww

X. COURSE SCHEDULE:

Class Day	Topic	Required Reading
Day 1	The Plant Operator	Chapter 1
	Treating Wastewater	Chapter 2
Day 2	Wastewater Treatment Plants	Chapter 3
Day 3	Wastewater Treatment Plants	Chapter 3
Day 4	Pre-treatment	Chapter 4
Day 5	Pre-treatment	Chapter 4
Day 6	Sedimentation and Floatation	Chapter 5
Day 7	Sedimentation and Floatation	Chapter 5
Day 8	Quiz / Trickling Filters	Chapters 1-5 / Chapter 6

Class Day	Topic	Required Reading
Day 9	Rotating Biological Contactors	Chapter 7
Day 10	Rotating Biological Contactors	Chapter 7
Day 11	Activated Sludge Process	Chapter 8
Day 12	Package Plants (Extended Aeration)/ Oxidation Ditches	Chapter 8
Day 13	Stabilization Ponds / Disinfection Process	Chapter 9 / Chapter 10
Day 14	Disinfection Process	Chapter 10
Day 15	Disinfection Process	Chapter 10
Day 16	Treatment Plant Math	Appendix
Day 17	Treatment Plant Math	Appendix
Day 18	Treatment Plant Math	Appendix
Day 19	Quiz/ Activated Sludge Plants	Chapters 6-10, Appendix
		/ Chapter 11
Day 20	Activated Sludge Plants	Chapter 11
Day 21	Plant Visit	Burnt Store WRF
Day 22	Sludge Digestion and Disposal	Chapter 12
Day 23	Sludge Digestion and Disposal	Chapter 12
Day 24	Effluent Discharge, Reclamation, and Reuse	Chapter 13
Day 25	Plant Safety	Chapter 14
Day 26	Plant Safety / Maintenance	Chapter 14/15
Day 27	Maintenance	Chapter 15
Day 28	Quiz / Laboratory Procedures and Chemistry	Chapters 11-15 / Chapter 16
Day 29	Laboratory Procedures and Chemistry	Chapter 16
Day 30	Application of Computers for Plant O&M/ Records and Report Writing	Chapter 17 / Chapter 19
Day 31	DEP Rules and Regulations	Handout
Day 32	DEP Rules and Regulations	Handout
Day 33	Quiz / Course Review	Chapters 16,17,19, and Handout / All Covered Materials
Day 34	Course Review	All Covered Materials
Day 35	Course Review	All Covered Materials
Day 36	Final Exam	All Covered Materials