

Course Outline

COURSE: WTRM 220 **DIVISION:** 50 **ALSO LISTED AS:** WTRM 120

TERM EFFECTIVE: Fall 2019 **CURRICULUM APPROVAL DATE:** 12/11/2018

SHORT TITLE: POLLUTION PREVENTION/STORM WTR

LONG TITLE: Pollution Prevention and Storm Water Management

Units	Number of Weeks		Contact Hours/Week		Total Contact Hours
3	18	Lecture:	3	Lecture:	54
		Lab:	0	Lab:	0
		Other:	0	Other:	0
		Total:	3	Total:	54

COURSE DESCRIPTION:

Pollution Prevention and Storm Water Management reviews methods and regulations to prevent pollutants from reaching the waters of our rivers, streams and aquifers. It reviews methods of reducing pollutants in industrial wastewater, water reuse and water recycling. Additionally, it reviews the methods and regulations for storing hazardous wastes and materials. Lastly, it reviews the general storm water permits for municipalities, industry and construction. At the end of this course, the student will have a fundamental knowledge of how to reduce pollution in our wastewater through effective water and process management, as well as appropriate hazardous materials and waste storage. This course also covers the implementation of methods required by the State's general permits to prevent pollution from entering storm water runoff. **ADVISORY:** WTRM 201: Introduction to Water/Wastewater Technology and WTRM 207: Beginning Wastewater Treatment Plant Operation. This course was previously listed as WTRM 120.

PREREQUISITES:

COREQUISITES:

CREDIT STATUS: D - Credit - Degree Applicable

GRADING MODES

L - Standard Letter Grade

REPEATABILITY: N - Course may not be repeated

SCHEDULE TYPES:

02 - Lecture and/or discussion

05 - Hybrid

72 - Dist. Ed Internet Delayed

STUDENT LEARNING OUTCOMES:

1. Outline the key elements of Pollution Prevention, Ingredient, and Chemical Waste Storage, Process Design, Equipment Design, and Facility Design.

Measure of assessment: Quizzes, Exams, Homework Assignments

Year assessed, or planned year of assessment: 2018

Semester: Fall

2. Explain the required elements of a General Municipal Storm Water Permit, a General Industrial Storm Water Permit, and a General Construction Storm Water Permit.

Measure of assessment: Quizzes, Exams, Homework Assignments

Year assessed, or planned year of assessment: 2018

CONTENT, STUDENT PERFORMANCE OBJECTIVES, OUT-OF-CLASS ASSIGNMENTS

Curriculum Approval Date: 12/11/2018

9 Hours

Content: Pollution Prevention, Process Management, Process Control, Equipment Design, Facility Design, Material Storage, Water Reuse, Water Recycling, Cleaning Processes, Rinsing Processes.

Student Performance Objectives: Describe the key elements of Pollution Prevention, Process Management, Process Control, Equipment Design, Facility Design, Material Storage, Water Reuse, Water Recycling, Cleaning Processes, and Rinsing Processes as they relate to pollution control and storm water management.

9 Hours

Content: Title 22, Hazardous Waste Storage.

Student Performance Objectives: Explain the requirements of Title 22, Article 10 - 14 and Hazardous Waste Storage.

9 Hours

Content: SPCC and Petroleum Storage.

Student Performance Objectives: Explain the requirements of SPCC and Petroleum Storage. Outline the requirements of 40 CFR Part 112 Spill Prevention, Containment and Counter Measure.

6 Hours

Content: Erosion and Sediment Control.

Student Performance Objectives: Outline the primary elements of Erosion and Sediment Control. Describe the major elements of erosion and sediment control.

3 Hours

Content: General Municipal Storm Water Permit.

Student Performance Objectives: Explain the requirements of a General Municipal Storm Water Permit.

6 Hours

Content: General Industrial Storm Water Permit.

Student Performance Objectives: Explain the requirements of a General Industrial Storm Water Permit.

10 Hours

Content: General Construction Storm Water Permit.

Student Performance Objectives: Explain the requirements of a General Construction Storm Water Permit.

2 Hours

METHODS OF INSTRUCTION:

Lecture, Discussion

OUT OF CLASS ASSIGNMENTS:

Required Outside Hours: 18

Assignment Description: Out-of-Class Assignments: Read material related to class presentations. Complete take home problems relating to the key elements of Pollution Prevention, Process Management, Process Control, Equipment Design, Facility Design, Material Storage, Water Reuse, Water Recycling, Cleaning Processes, and Rinsing Processes as they relate to pollution control and storm water management.

Required Outside Hours: 18

Assignment Description: Out-of-Class Assignments: Read Title 22 and Hazardous Waste Storage requirements. Group homework related to the requirements of Title 22 and Hazardous Waste Storage.

Required Outside Hours: 18

Assignment Description: Out-of-Class Assignments: Read SPCC and Petroleum Storage requirements. Group homework related to the requirements of SPCC and Petroleum Storage.

Required Outside Hours: 12

Assignment Description: Out-of-Class Assignments: Read material related to class presentations. Group homework related to the primary elements of Erosion and Sediment Control.

Required Outside Hours: 6

Assignment Description: Out-of-Class Assignments: Review the General Municipal Storm Water Permit and read its requirements. Group homework related to the requirements of a General Municipal Storm Water Permit.

Required Outside Hours: 12

Assignment Description: Out-of-Class Assignments: Review the General Industrial Storm Water Permit and read its requirements. Group homework related to the requirements of a General Industrial Storm Water Permit

Required Outside Hours: 20

Assignment Description: Out-of-Class Assignments: Review the General Construction Storm Water Permit and read its requirements. Group homework related to the requirements of a General Construction Storm Water Permit.

METHODS OF EVALUATION:

Writing assignments

Percent of total grade: 10.00 %

Written Homework, Reading Reports

Problem-solving assignments

Percent of total grade: 50.00 %

Homework Problems, Quizzes, Exams, Group Projects

Objective examinations

Percent of total grade: 40.00 %

Multiple Choice, Completion, Other: Storm Water Pollution Prevention Plan

REPRESENTATIVE TEXTBOOKS:

Required Representative Textbooks

State of California, U.S. Government. Most current government codes posted online. See list below.. State of California, U.S. Government: State of California, U.S. Government,2017.

Reading Level of Text, Grade: 11th Verified by: Dana Young

Required Other Texts and Materials

Most current Government Codes posted online: CCR Title 22 , Chapters 10 -14; 40CFR Part 112; California General Municipal Storm Water Permit; California General Industrial Stormwater Permit; California General Construction Storm Water Permit; Certified Professional in Erosion and Sediment Control Exam Review and Study Guide, State of California; US EPA, State of California X3, Envirocert.

ARTICULATION and CERTIFICATE INFORMATION

Associate Degree:

CSU GE:

IGETC:

CSU TRANSFER:

Not Transferable

UC TRANSFER:

Not Transferable

SUPPLEMENTAL DATA:

Basic Skills: N

Classification: Y

Noncredit Category: Y

Cooperative Education:

Program Status: 1 Program Applicable

Special Class Status: N

CAN:

CAN Sequence:

CSU Crosswalk Course Department:

CSU Crosswalk Course Number:

Prior to College Level: Y

Non Credit Enhanced Funding: N

Funding Agency Code: Y

In-Service: N

Occupational Course: C

Maximum Hours: 3

Minimum Hours: 3

Course Control Number: CCC000530897

Sports/Physical Education Course: N

Taxonomy of Program: 095800