WTR 101 Course Outline as of Fall 2021

CATALOG INFORMATION

Dept and Nbr: WTR 101 Title: INTRO TO WATER CAREERS
Full Title: Introduction to Water Careers
Last Reviewed: 1/25/2021

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.00	Lab Scheduled	0	2	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	1.00		Contact Total	17.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00 Total Student Learning Hours: 52.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:	
Formerly:	ENVT 101

Catalog Description:
Introduces the water cycle with focus on Sonoma County water resources and water needs. Explores local career opportunities in the fields of water treatment technology, water distribution technology, and waste water treatment technology.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Introduces the water cycle with focus on Sonoma County water resources and water needs. Explores local career opportunities in the fields of water treatment technology, water distribution technology, and waste water treatment technology. (Grade Only)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment:

Transfer Credit:
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**	Effective:	Inactive:
CSU GE:	**Transfer Area**	Effective:	Inactive:
IGETC:	**Transfer Area**	Effective:	Inactive:

CSU Transfer:	Effective:	Inactive:
UC Transfer:	Effective:	Inactive:

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Explain water cycle concepts with a focus on Sonoma County water resources and needs.
2. Evaluate careers in water treatment technology.

Objectives:
At the conclusion of this course, the student should be able to:
1. Differentiate between ground water and surface water.
2. Define and contrast runoff, evaporation, and percolation.
3. Differentiate and rank sources of dissolved minerals and bacteria in water supplies.
4. Differentiate and analyze water quality and quantity in wells, rivers, and the ocean.
5. Define and summarize responsibilities of water distributors and water and waste water treatment plant operators.
6. Evaluate and summarize requirements for government certification as a water treatment plant operator, water distributor, or waste water treatment plant operator.
7. Identify and inventory major water uses and users in Sonoma County.
8. Distinguish among and summarize environmental technology course offerings.
9. Access information about local career opportunities in the fields of water treatment and water distribution technology.

Topics and Scope:

I. Water Cycle
- A. Evaporation
- B. Precipitation
- C. Percolation
  1. Agricultural water use
  2. Ground water
  3. Dissolved minerals
     a. Natural sources

b. Anthropogenic sources
i. Petroleum
ii. Pesticides
iii. Acid mine drainage
4. Wells
5. Municipal and domestic water use
D. Runoff
1. Rivers
2. Aquatic organisms
a. Fish
b. Birds
c. Mammals
d. Microorganisms
e. Water-borne diseases
3. Reservoirs
4. Sonoma County Water Agency Ranney collectors
5. Wastewater discharges
E. Ocean
1. Industrial water use
2. Potential for municipal water use

II. Sonoma County Water Professions
A. Water treatment plant operators
1. Introduction to water treatment technologies
2. Responsibilities
3. California state certification
B. Water distribution operators
1. Introduction to water distributions technologies
2. Responsibilities
3. California state certification
C. Waste water treatment plant operators
1. Introduction to waste water treatment technologies
2. Responsibilities
3. California state certification
D. Careers
1. Opportunities
2. Sources of information
3. Other profession and education opportunities

Assignment:

1. Reading (approximately 40 pages) for the duration of the course
2. Research project
3. Quiz(zes) (1-3)
4. Final exam

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Research project	Writing 10 - 20%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Research project	Problem solving 20 - 30%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

None	Skill Demonstrations 0 - 0%

Exams: All forms of formal testing, other than skill performance exams.

Quiz(zes) and exam	Exams 50 - 70%

Other: Includes any assessment tools that do not logically fit into the above categories.

None	Other Category 0 - 0%

Representative Textbooks and Materials:
Instructor-prepared materials