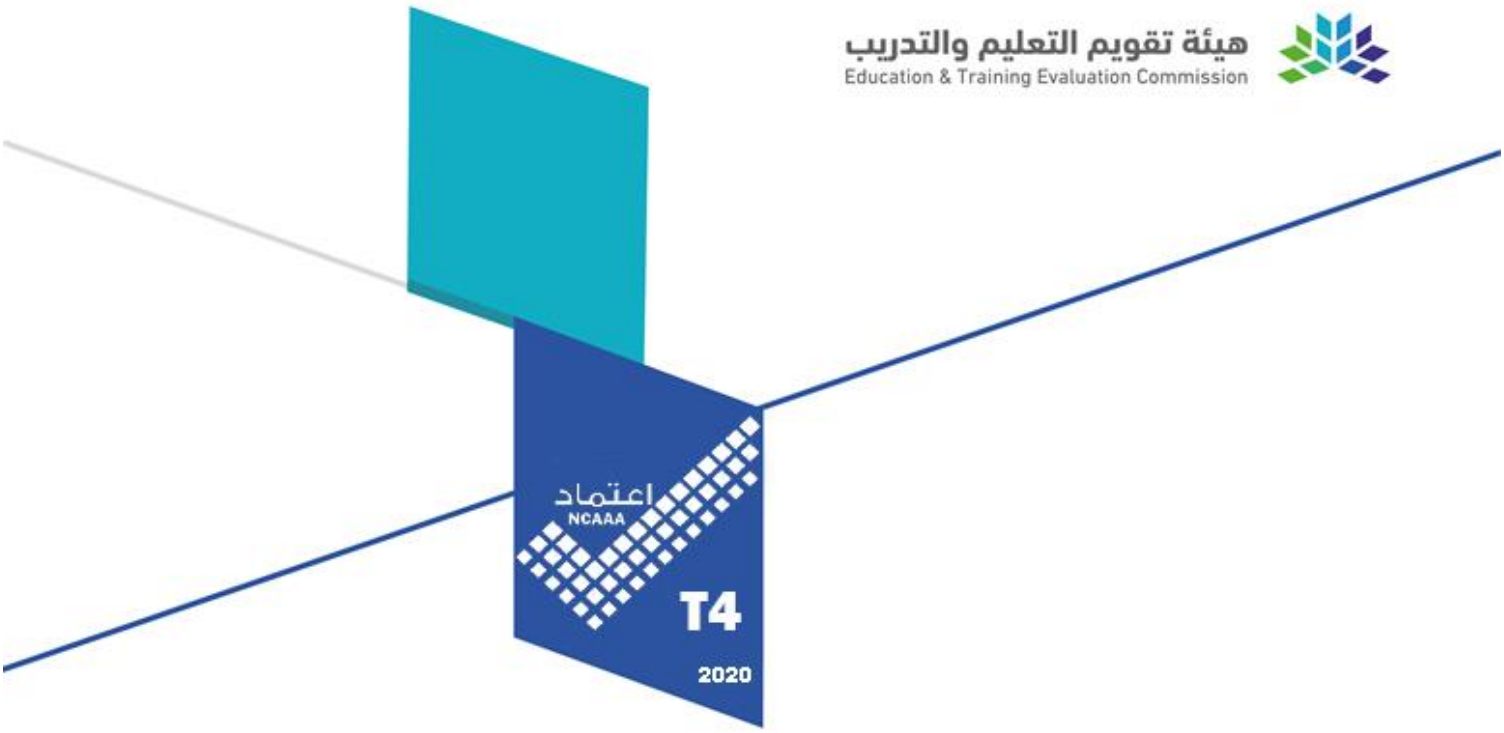
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	Water Pollution
Course Code:	ENS 309
Program:	Environmental Health/ Environmental Sciences and Technology Program
Department:	Environmental Sciences
College:	Faculty of Meteorology, Environment and Arid Land Agriculture
Institution:	

Table of Contents

A. Course Identification **3**

6. Mode of Instruction (mark all that apply) 3

B. Course Objectives and Learning Outcomes **3**

1. Course Description 3

2. Course Main Objective 4

3. Course Learning Outcomes 4

C. Course Content **4**

D. Teaching and Assessment **4**

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 4

2. Assessment Tasks for Students 6

E. Student Academic Counseling and Support **6**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **7**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:
2. Course type **a.** University ☐ College ☐ Department ■ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: 5th level/ 3nd year
4. Pre-requisites for this course (if any)**:** CHEM 202
5. Co-requisites for this course (if any)**:**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	42	75%
2	**Blended**		
3	**E-learning**	14	25%
4	**Correspondence**		
5	**Other**		

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	42
2	**Laboratory/Studio**	42
3	**Tutorial**	
4	**Others** (specify)	
	Total	84
Other Learning Hours*		
1	**Study**	28
2	**Assignments**	14
3	**Library**	
4	**Projects/Research Essays/Theses**	5
5	**Others** (specify)	
	Total	47

* The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course aims at introducing the students with the theoretical and practical basis and principles of water pollution

2. Course Main Objective

By the end of this course, students will be able to know:

1. The theoretical and practical principles of water pollution
2. The water pollutants, the methods of analysis, and the hazards of water pollutants on man and environment

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge:**	
1.1	Recognize water source, characteristics and uses.	
1.2	Define water pollution.	
1.3	List water pollution sources and pollutants types.	
1.4	Identify of the effects of water pollution on human and environment.	
1.5	Describe the fate and transport of pollutants in the ecosystem.	
2	**Skills :**	
2.1	Explain the impact of water pollution on the environment	
2.2	Demonstrate the proper use of analysis method for water pollution evaluation	
2.3	Recognize the biological decomposition of pollutants	
2.4	Write water analysis reports	
3	**Competence:**	
3.1	Interpret and present results	
3.2	Conduct selected water analysis experiments	

C. Course Content

No	List of Topics	Contact Hours
1	Water cycle in nature	3
2	Water sources, characteristics, and uses	6
3	Water pollution definition	3
4	Sources of water pollution, types of pollutants , the fate of these pollutants in ecosystem	20
5	Biological decomposition of pollutants, specially organic pollutants	12
6	Non-biodegradable pollutants, and their impact on ecosystem	12
Total		56

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge**		
1.1	Recognize water source, characteristics and uses.	- Lectures and active discussion. - Explanation and examples	- In class short quizzes - Midterm and final exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Define water pollution.	- Lectures and active discussion. - Explanation and examples	- In class short quizzes - Midterm and final exams
1.3	List water pollution sources and pollutants types.	- Lectures and active discussion. - Explanation and examples	In class short quizzes - Midterm and final exams -homework assignments
1.4	Identify of the effects of water pollution on human and environment.	- Lectures and active discussion. - Explanation and examples - reading assignments	In class short quizzes - Midterm and final exams -homework assignments
1.5	Describe the fate and transport of pollutants in the ecosystem.	Lectures and active discussion. - Explanation and examples - reading assignments -case studies	In class short quizzes - Midterm and final exams -homework assignments
2.0	**Skills**		
2.1	Explain the impact of water pollution on the environment	- Lectures and active discussion. - Explanation and examples - reading assignments -case studies	- In class short quizzes - Midterm and final exams -homework assignments
2.2	Demonstrate the proper use of analysis method for water pollution evaluation	- Lectures and active discussion. - Laboratory experiments	- In class short quizzes - Midterm and final exams -homework assignments
2.3	Recognize the biological decomposition of pollutants	- Lectures and active discussion. - Explanation and examples - reading assignments -case studies	- In class short quizzes - Midterm and final exams -homework assignments
3.0	**Competence**		
3.1	Interpret and present results	- Lectures and active discussion. - Laboratory experiments	- Projects and Presentations - report writing
3.2	Conduct selected water analysis experiments	- Lectures and active discussion. - Laboratory experiments	- Projects and Presentations - report writing

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	In class short quizzes	Every other week	10%
2	Midterm	7th	15%
3	Homework	2nd, 6th, 8th,10th	10%
4	Oral presentations	12th	10%
5	Reports	11th	15%
6	Final exam	14th	40%
7			
8			

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice : Office hours for the professor and teaching assistants will be announced every semester. 4 hours a week will be scheduled.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**Vigil, K.M. (2003) Clean water: An introduction to water quality and water pollution control, second edition, USA. ISBN 13: 978-0870714986.**
Essential References Materials	**Calhoun Y. (2005) Water Pollution (environmental Issue), Chelsea House Publications. ISBN-13: 978-0791082027.**
Electronic Materials	Class presentations and materials will be posted on the course website
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom Water laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show
Other Resources (Specify, e.g. if specific laboratory	

Item	Resources
equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Surveys
Quality of learning resources	Peer reviewer	Consultation
Extent of achievement of course learning outcomes	Program leaders	Exit exam results

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	April, 2021