

Course Specifications

Course Title:	Undergraduate Research	
Course Code:	ENS 480	
Program:	Environmental Sciences and Technology	
Department:	Environmental Sciences Department	
College:	Faculty of Meteorology, Environment and Arid Land Agriculture	
Institution:	King Abdulaziz University	







Table of Contents

A. Course Identification	
6. Mode of Instruction (mark all that apply)	3
B. Course Objectives and Learning Outcomes	
1. Course Description	3
2. Course Main Objective	3
3. Course Learning Outcomes	4
C. Course Content	
D. Teaching and Assessment4	
1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods	4
2. Assessment Tasks for Students	5
E. Student Academic Counseling and Support5	
F. Learning Resources and Facilities5	
1.Learning Resources	5
2. Facilities Required	6
G. Course Quality Evaluation	
H. Specification Approval Data6	

A. Course Identification

1. Credit hours: 4		
2. Course type		
a. University Colleg Department x Others		
b. Required x Elective		
3. Level/year at which this course is offered: $7/8^{\text{th}}/4^{\text{th}}$ year		
4. Pre-requisites for this course (if any):		
90 credit hours passed		
5. Co-requisites for this course (if any):		
None		

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom		
2	Blended		
3	E-learning		
4	Distance learning		
5	Other		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	
2	Laboratory/Studio	
3	Tutorial	
4	Others (specify)	
	Total	

B. Course Objectives and Learning Outcomes

1. Course Description

The course aims to train students on how to select a research project in their track of <u>Environmental Sciences and Technology</u> and to conduct the experimental part of the research and to interpret the data obtained to prepare the final graduation report.

2. Course Main Objective

Outcomes:

By the end of the course, the student should be able to:

- Solve problems related to the environment using scientific research.
- Report the information and data.
- Apply experimental methods
- Discuss results.
- Write an integrated research report.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	Knowledge and Understanding	
1.1	Recognize the importance of scientific research and how to conduct	
	experimental research	
1.2	Analyze data	
1.3	discuss results obtained	
1.4	Write the final research report	
2	Skills :	
2.1	Identify a researchable problem in the track of Environmental Sciences	
	and Technology	
2.2	Apply equipment properly and conduct the related experimental in a	
	proficient methodology	
2.3	Arrange the research report in the approved style	
3	Values:	
3.1	Demonstrate an independent role in conducting a research	
3.2	Assess resources and arrange tasks with research duration	
3.3	Analyze and evaluate results in contrast with scientific facts and lit.	
	reviews	

C. Course Content

No	List of Topics	Contact Hours
1	The course is completed in view of the problem dealt with, approved by the ENS Dept and the two-semester period assigned for it, based on the student's track of study.	Pls see Table 7
	Total	

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 and Understanding			
1.1	Recognize the importance of scientific research and how to conduct experimental research.	Office hours and in- lab follow-up and discussion	Follow-up reports	
1.2	Analyze data			
1.3	discuss results obtained			
1.4	Write the final research report			
2.0	Skills			
2.1	Identify a researchable problem in the track of Environmental Sciences and Technology	Discussion	Discussion	
2.2	Apply equipment properly and conduct the related experimental in a proficient methodology	Lab demonstration		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.3	Arrange the research report in the approved style	Handout by the student	Presentation of the results, their analysis, and discussion
3.0	Values		
3.1	Demonstrate an independent role in conducting a research	assignments	Ratingsbysupervisoronperformanceandmanagementofresearch tasks
3.2	Assess resources and arrange tasks with research duration	Discussion	""""
3.3	Analyze and evaluate results in contrast with scientific facts and lit. reviews	""""	""""

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assessment of the research progress	Every week	30%
2	Periodical reports	Every two weeks	40%
3	Final report	13 th week	30%

*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 3 h / week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	-
Essential References Materials	-
Electronic Materials	Internet websites.
Other Learning Materials	Literature review

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	_
Technology Resources (AV, data show, Smart Board, software, etc.)	Relevant software
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Equipment related to the experimental part of the research.

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student evaluation of the training period	Students (direct through meetings, or indirect using the central online questionnaires	Online questionnaire and Students- faculty meetings (advisory committee)
Quality of training		Online questionnaire and students- faculty meetings (advisory committee)
Office hours commitment		Online questionnaire and Students- faculty meetings (advisory committee)

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	END Dept. Council and Faculty Academic Accreditation Committee
Reference No.	
Date	April 06, 2021