Ministry of Higher Education and Scientific Research
Supervision and Scientific Evaluation Authority
Department of Quality Assurance and Academic Accreditation

Academic Program Description Form for Colleges and Institutes
Academic Year

University: Shatt Al-Arab
College/Institute: Engineering
Scientific Department: Civil
Date of Form Completion: 01/09/2024

Signature
Name of Head of Department:

Asst. Lecturer Nabeel Najm Abdullah

Signature

Name of Scientific Assistant: Dr. Jawad Kadhim

Reviewed by:
Quality Assurance and University Performance Division
Name of Division Director: Dr. Jasem Mohsen Yasser

Signature:

الدكتور
جاسم محسن ياسر
Dr.Jasim Al-Battat

أ.م.د.احسان قاسم محمد
عميد كلية الهندسة

Dean's Approval

Course Description

This course description provides a concise summary of the main characteristics of the course and the expected learning outcomes the student should achieve, demonstrating whether they have made full use of the available learning opportunities. It must be linked to the program description.

Educational Institution: College of Engineering
Department/Center: Civil Engineering
Course Name / Code: Engineering Mechanics 2 / CE113
Modes of Attendance Available: In-person
Semester / Year: Semester-based
Total Study Hours: 60
Date Prepared: 1/9/2024

Course Objectives

The study of Engineering Mechanics aims to enable students to understand the basic principles of force analysis and equilibrium, and apply them in the analysis and design of bridges and buildings to ensure safety and sustainability. The course also teaches scientific engineering methods for dealing with friction, the centroid of stationary bodies, and determining their moment of inertia.

Course Learning Outcomes, Teaching, Learning, and Assessment Methods

A – Cognitive Objectives
Apply knowledge of basic sciences, particularly mathematics and physics, to identify, formulate, and solve civil engineering problems, including understanding friction, methods of deriving motion, determining the centroid of regular and irregular shapes, and calculating the moment of inertia for regular and irregular shapes to assist in civil engineering analysis and design.

B – Skills-related Objectives
The objectives of CE113 (Engineering Mechanics) are to learn the fundamental principles of mechanics and develop problem-solving skills by applying these principles to basic engineering problems. Specific topics covered include: friction and its effects on bodies, determining the centroid for regular and irregular shapes, and calculating the moment of inertia for various shapes.

Teaching and Learning Methods
This unit is taught using a strategy that encourages students to participate in discussions, solve exercises, and simultaneously refine and expand their critical thinking skills. This will be achieved through lectures, interactive lessons, and consideration of small projects involving activities of interest to students.

Assessment Methods

Assessment Type	Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment				
Quizzes	2	10% (10)		
Assignments	2	10% (10)		
Projects/Laboratory	1	10% (10)		
Report	1	10% (10)		
Summative assessment				
Midterm Exam	2hr	10% (10)		
Final Exam	2hr	50% (50)	Week 16	All
Total Assessment		100% (100)		

C – Affective Objectives and Values

- **C1 – Attention:** Attract students' attention by implementing an applied program on the classroom display screen.
- **C2 – Response:** Monitor student interaction with the displayed material.
- **C3 – Interest:** Follow up on students who show more interest in the displayed material and increase engagement by requesting more programs and applications to display.
- **C4 – Attitude Formation:** Encourage students to have an opinion on the presented topic and defend it.
- **C5 – Value Behavior Formation:** Lead students to reach the highest affective level, maintaining consistent participation without laziness or boredom.

Teaching and Learning Methods
The unit will be taught with a strategy encouraging students to participate in practical activities, conduct research, perform exercises, and engage in discussions, while also refining and expanding their practical thinking skills.

Assessment Methods

- Interaction during lectures and labs
- Homework and reports
- Short quizzes

- Midterm and final exams

D – General and Transferable Skills (Employability and Personal Development Skills)
Scientific and practical skills are developed through teaching and learning activities. Students' skills in solving structural engineering problems will be improved through small study groups, with evaluation and feedback provided for all submitted work.

Weekly Course Plan

Week	Hours	Unit/Topic	Teaching Method	Assessment Method
1	4	Friction	Theoretical lectures	Daily quiz & midterm exam
2	4	Friction	Theoretical lectures	
3	4	Friction	Theoretical lectures	
4	4	Friction	Theoretical lectures	
5	4	Friction	Theoretical lectures	
6	4	Friction	Theoretical lectures	
7	4	Centroid	Theoretical lectures	
8	4	Centroid	Theoretical lectures	
9	4	Centroid	Theoretical lectures	
10	4	Centroid	Theoretical lectures	
11	4	Centroid	Theoretical lectures	
12	4	Moment of Inertia	Theoretical lectures	
13	4	Moment of Inertia	Theoretical lectures	
14	4	Moment of Inertia	Theoretical lectures	
15	4	Moment of Inertia	Theoretical	

Week Hours	Unit/Topic	Teaching Method	Assessment Method
		lectures	
16	Preparation week before final exam		

Infrastructure

Required Textbooks

- Hibbeler R. C., *Engineering Mechanics: Statics*, 14th ed., 2015
- M. E. Plesha, *Engineering Mechanics: Statics*, 1st ed., 2010
- A. Bedford, *Engineering Mechanics: Statics*, 5th ed., 2008

Main References (Sources)

Recommended Books and References (Scientific Journals, Reports, etc.)

- Hibbeler R. C., *Engineering Mechanics: Statics*, 14th ed., 2015

Electronic References, Websites, etc.

- https://www.coursera.org/search?query=mechanics%20of%20engineering

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Course Development Plan

There is an intention to develop the course by enhancing the topics it covers.