

TISHK INTERNATIONAL UNIVERSITY FACULTY OF ENGINEERING Department of CIVIL ENGINEERING, 2020-2021 Spring Course Information for CE 122 ENGINEERING MECHANICS			
Course Name:	ENGINEERING MECHANICS		
Code	Regular Semester	Theoretical	
CE 122	2	4	
Name of Lecturer(s)- Academic Title:	Junaid Kameran - MSc Twana Ahmad -		
Teaching Assistant:	No		
Course Language:	English		
Course Type:	Main		
Office Hours	Sunday, 08:30 am to 12:00, Tuesday 2.30 --4.30		
Contact Email:	junaid.kameran@tiu.edu.iq twana.ahmad@tiu.edu.iq Tel:07508965170 07703551635		
Teacher's academic profile:	MSc in Civil Engineering		
Course Objectives:	This course familiarizes students with the principles of static equilibrium by applying Newton's laws of motion to solve engineering problems. Emphasis is placed on drawing free body diagrams and self checking strategies. Topics include introduction to forces; 2D equilibrium of particles and bending moment diagrams.		
Course Description (Course overview):	Vector operations. Wedges. Frictional forces on screws and flat belts. Rolling resistance. Virtual work for a system of connected rigid bodies, Equilibrium of a particle, Freebody diagram Equilibrium of a rigid body in two and three dimensions, Trusses, Frames and machines, Dry friction, Moment of inertia.		
COURSE CONTENT			
Week	Hour	Date	Topic
1	4	28/3-1/4/2021	Chapter 6 -Structural Analysis- Method of sections
2	4	4-8/4/2021	Chapter 6 -Method of sections - Solving Problems
3	4	11-15/4/2021	Chapter 7 -Internal Forces -Internal Forces Developed in Structural Members
4	4	18-22/4/2021	Chapter 7 -Shear and Moment Equations and Diagrams
5	4	25-29/4/2021	Midterm Exam
6	4	2-6/5/2021	Strain
7	4	9-11/5/2021	Chapter 7 Relations between Distributed Load, Shear, and Moment
8	4	16-20/5/2021	Midterm Exam
9	4	23-27/5/2021	Chapter 9 -Center of Gravity and Centroid-Center of Gravity, Center of Mass, and the Centroid of a Body
10	4	30/5-3/6/2021	Chapter 10 -Moments of Inertia-Definition of Moments of Inertia for Areas-Parallel-Axis Theorem for an Area
11	4	6-10/6/2021	Chapter 10 - Product of Inertia for an Area-Moments of Inertia for an Area about Inclined Axes
12	4	13-17/6/2021	Chapter 10 - Product of Inertia for an Area-Moments of Inertia for an Area about Inclined Axes
13	4	20-24/6/2021	Final Exam
COURSE/STUDENT LEARNING OUTCOMES			
1	Solve engineering problems involving mechanical stress, strain and deformations		
2	Solve mechanical engineering problems related to axial, torsional, flexural, buckling and combined loading configurations through stress, strain and deformation analyses.		
3	Design simple axial, torsional, flexural and buckling members capable of tolerating prescribed limits of stress and deflection		
4	To provide students with exposure to the systematic methods for solving engineering problems in solid mechanics.		
5	To provide students with exposure to the systematic methods for solving engineering problems in solid mechanics.		
COURSE'S CONTRIBUTION TO PROGRAM OUTCOMES (Blank : no contribution, I: Introduction, P: Proficient, A: Advance)			
Program Learning Outcomes			
1	Apply the principles of engineering, science, and mathematics to identify, formulate, and solve Petroleum and Mining Engineering problems.		
2	apply designs to produce solutions that meet specified Petroleum and Mining project needs with consideration of health, safety, and environment.		
3	make judgments in Petroleum and Mining Engineering situations by considering the global, economic, and environmental impacts.		
4	function effectively and demonstrate professionalism in both individual and group settings by creating a collaborative environment.		
5	develop and conduct appropriate Petroleum and Mining experiments and researches using qualitative and quantitative methods.		
6	analyze and interpret data of Petroleum and Mining experimentation correctly.		
7	make logic and reasonable engineering estimation of data to design a solution for specific Petroleum and Mining Engineering projects.		
8	apply advanced knowledge and modern engineering tools as needed		
9	design systems, components or processes to meet the needs and demands of the profession of Petroleum and Mining Engineering projects.		
10	apply the Petroleum and Mining Engineering concepts to other energy sectors such Geothermal.		
Prerequisites (Course Reading List and References):	General physics, Calculus I		
Student's obligation (Special Requirements):	Attending all the classes, and bringing calculator		
Course Book/Textbook:	1.Engineering Mechanics-Statics by R.C.-Hibbeler, 12th Edition		
Other Course Materials/References:	2.Engineering Mechanics-Statics by Meriam & Kraige, 7th Edition		
Teaching Methods (Forms of Teaching):	Lectures, Practical Sessions, Exercises, Assignments		
COURSE EVALUATION CRITERIA			

Method	Total
Attendance	
Participation	
Quiz	
Homework	
Midterm Exam(s)	
Final Exam	

Examinations: Essay Questions, Fill in the Blanks, Matching

Extra Notes:

ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD

Activities	ECTS (ALLOCATED BASED ON STUDENT) WORKLOAD
Theoretical Hours	
Practical Hours	
Final Exam	
Attendance	
Participation	
Quiz	
Homework	
Midterm Exam(s)	
Total Workload	
ECTS Credit (Total workload/25)	

Peer review

Signature:
Name:
Lecturer

Signature:
Name:
Head of Department

Signature:
Name:
Dean