



HASAN KALYONCU UNIVERSITY
Faculty of Engineering
Course Description Form

COURSE: Statics					
CODE: CE122		SEMESTER: SPRING			
LANGUAGE: ENGLISH		TYPE: COMPULSORY			
PRE-REQUISITES: - CO-REQUISITES: -		THEORY	PRACTICAL	CREDIT	ECTS
WEEKLY HOURS: 4		4	0	4	5

CONTENT OF THE COURSE:

The course introduces the fundamentals of statics within the field of engineering mechanics and provide a background for structural analysis of civil engineering systems. This course covers: rigid body mechanics, free body diagram in equilibrium position and static equilibrium equations for rigid body systems, finding the centroids of different geometric shapes, moments of inertia, analysis of trusses and beams, and defining distributed, normal and shear forces.

OBJECTIVE OF THE COURSE:

To enable students to understand the basic concepts of forces, couples and moments in two and three dimensions. Furthermore, to develop their analytical skills relevant to the equilibrium of rigid bodies and composite bodies. As well as understanding the effect of center of gravity on stability of different engineering structures.

WEEKLY SCHEDULE

Week	Topics
1	Chapter 1: General Principles
2	Chapter 2: Force Vectors
3	Chapter 3: Equilibrium of a Particle
4	Chapter 4: Force System Resultants
5	Chapter 4: Force System Resultants
6	Chapter 5: Equilibrium of a Rigid Body
7	Chapter 5: Equilibrium of a Rigid Body
8	Midterm Week
9	Chapter 6: Structural Analysis
10	Chapter 6: Structural Analysis
11	Chapter 7: Internal Forces
12	Chapter 8: Center of Gravity and Centroid
13	Chapter 8: Center of Gravity and Centroid
14	Chapter 9: Moments of Inertia

TEXTBOOK: • Russell G. Hibbeler, "Engineering Mechanics, Statics", 14th edition, Pearson Prentice – Hall, 2019.

REFERENCE BOOKS

- Meriam & Kraige, "Engineering Mechanics (Statics)", Wiley, Sixth edition.
- Macklin & Nelson, "Engineering Mechanics", McGraw Hill, (Latest edition).

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	3	3	0	0	0	0	0	0	0	0	0
LO2	3	3	0	0	0	0	0	0	0	0	0
LO3	2	3	0	0	0	0	0	0	0	0	0
LO4	3	3	0	0	0	0	0	0	0	0	0
LO5	3	3	0	0	0	0	0	0	0	0	0
PO: Program Outcomes LO: Learning Outcomes Values: 0: None 1: Low 2: Medium 3: High											

INSTRUCTOR(S):	Assoc. Prof. Dr. Amjad Khabaz
FORM PREPARATION DATE:	22.05.2019

LEARNING OUTCOMES OF THE COURSE:

- LO1:** To determine the resultant of coplanar and space force system
LO2: To distinguish between concurrent, coplanar and space forces systems
LO3: To draw free body diagrams
LO4: To analyze the reactions and pin forces induced in coplanar and space systems using equilibrium equations and free body diagrams
LO5: To determine friction forces and their influence upon the equilibrium of system

CONTRIBUTION OF THE COURSE TOWARDS PROVIDING VOCATIONAL EDUCATION: The student learns about the effects of the loads imposed by the structure, which is important in the design of civil engineering structures, and learns how to use them in design.