Engineering Mechanic - Statics

Course Schedule

Week	Subject	Sub-Subjects
Week 1 Week 2	General principles	• Mechanics • Fundamental concepts • Units of measurement • International units • General procedure for analysis
Week 3 Week 4 Week 5	Forces	• Scalars and vectors • Vector operations • Vector addition of forces • Addition of system of coplanar forces • Cartesian Vectors • Addition of Cartesian Vectors • Position Vectors • Position Vectors • Dot Product
Week 6 Week 7 Week 8	Equilibrium of a Particle	• Condition for the Equilibrium of a Particle • The Free-Body Diagram • Coplanar Force Systems • Three-Dimensional Force Systems
Week 9 Week 10 Week 11	Equilibrium and Equivalence of Force Systems	• Moment of a Couple Simplification of a Force and Couple System • Reduction of a • Simple Distributed Loading

Week	Subject	Sub-Subjects
Week 12 Week 13	Free Body Diagrams and Equilibrium Analysis Techniques	• Centroids • Method of composite • Free body diagrams approach
Week 14 Week 15	Application of Static Equilibrium Equations	• Apply 2D Equilibrium problems • Apply 3D Equilibrium problems

Reference(s):

R. C. HIBBELER, 2013, Engineering Mechanics Statics, Thirteenth Edition, Pearson Education.

Notes:

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Date:	Examination No.:	Version:1/9/2019	Start: 5/9/2019
Module Name - Code	Engineering Mechanics - Statics- 2102		
Module Language:	English		
Responsible:	Dr. Mustafa Atrushi		
Lecture (s):			
College:	College of Engineering – Salahaddin University-Erbil		
Duration:	15 week – 1 semester		
Course outcomes:	The objective of this course is to learn and apply the principles required to solve engineering mechanics problems. Basic math and physics principles will be applied in this course to analyze and solve problems. The course addresses the modeling and analysis of static equilibrium problems with an emphasis on real world engineering applications and problem solving.		
Course Content:	General principles, forces, equilibrium of a particle, equilibrium and equivalence of force systems, free body diagram and equilibrium analysis techniques, application of static equilibrium equations		
Literature:	R. C. HIBBELER, 2013, Engineering Mechanics Statics, Thirteenth Edition, Pearson Education		
Type of Teaching:	2 hours lecture		

Pre-requisites:	none
Frequency:	Fall semester
Requirements for credit points:	To earn the required credits, the student must fulfil the module tasks and exams. The module includes exams during the the semester, assignments, and a final exam. **Students must attend the class.**
Credit point:	3
Grade Distribution:	The final grade for the module will be determined according to the following breakdown: Assignments 20% Exams 20% One final Exam 60%
Work load:	The workload of this module is estimated to be 90 hrs. It is the result of 30 hrs in class study and 60 hrs self-study.