Jordan University of Science and Technology

Faculty of Engineering

Civil Engineering Department

CE332 Structural Analysis (1) - JNQF Level: 7

Second Semester 2024-2025

Course Catalog
3 Credit Hours. Classification of structures; loads; truss analysis, internal loadings in structures, shear and moment diagrams for beams and frames; influence lines for determinate structures; deflections; introduction to methods of analysis of statically indeterminate structures.
Teaching Method: On Campus

Text Book	
Title	Structure Analysis
Author(s)	R.C. Hibbeler
Edition	8th Edition
Short Name	Ref #1
Other Information	

Class Schedule & Room
Section 1: Lecture Time: U : - Room:

Prerequisites		
Line Number	**Course Name**	**Prerequisite Type**
232021	CE202 Strength Of Materials	Prerequisite / Pass

Tentative List of Topics Covered		
Weeks	**Topic**	**References**

Week 1	Classifications of structures and loads	**chapter 1** From **Ref #1**
Weeks 2, 3	Equilibrium, superposition and determinacy	**chapter 2** From **Ref #1**
Week 3	Truss analysis (simple and compound trusses).	**Chapter 3** From **Ref #1**
Weeks 4, 5, 6	Internal loadings in determinate beams.	**Chapter 4** From **Ref #1**
Week 7	Frame analysis.	**Chapter 4** From **Ref #1**
Weeks 8, 9	Deflection methods (strain energy and virtual work method)	**Chapter 9** From **Ref #1**
Weeks 11, 12, 13	Deflection methods (Castigliano's theorems, moment-area, double integration and conjugate beam).	**Chapter 8** From **Ref #1**
Weeks 14, 15	Influence lines for determinate structures.	**Chapter 6** From **Ref #1**

Mapping of Course Outcomes to Program Outcomes and NQF Outcomes	**Course Outcome Weight (Out of 100%)**	**Assessment method**
The student will be able to identify the types of structures and loads [1PI-1a] [1L7K1]	10%	
The student will be able to classify structures (trusses, beams and frames) with respect to stability and determinacy [1PI-1a] [1L7K1]	10%	
The student will be able to analyze the determinate structures to compute the reactions and internal forces (axial, shear and moment) due to a static loads. [1PI-1a] [1L7S1]	30%	
The students will be able to evaluate the deflection in determinate structures using deflection methods (virtual work method, moment area method, double integration method and Conjugate beam method). [1PI-1a] [1L7S1]	30%	
The student will be able to evaluate the reactions and internal loads of determine structures due to moving loads. [1PI-1a] [1L7S1]	20%	

Relationship to Program Student Outcomes (Out of 100%)											
PI-1a	PI-2a	PI-2b	PI-2c	PI-2d	PI-3a	PI-4a	PI-4b	PI-5a	PI-6a	PI-6b	PI-7a
100											

Relationship to NQF Outcomes (Out of 100%)	
L7K1	L7S1
20	80

Evaluation	
Assessment Tool	**Weight**
Quiz	10%
First Exam	25%
Second Exam	25%
Final Exam	40%

Policy	
Grading Policy	Homework & Quizzes One week after homework problems are assigned 10% First Exam According to the department schedule 25 % Second Exam According to the department schedule 25 % Final Exam According to the University final examination schedule 40 %

Date Printed: 2024-11-21