



**DEPARTMENT OF CIVIL ENGINEERING
JORDAN UNIVERSITY OF SCIENCE AND TECHNOLOGY**

CE 332

Structure Analysis I

Course Description

This course is the introductory course in identification and analysis of basic structural elements. Topics include the determination of beam deflections, methods for the computational analysis of statically determinate trusses and frames.

TEXTBOOKS:

Structure Analysis (8th Ed) by R. C. Hibbeler, ISBN 978-981-06-8713-7.

COURSE CONTENTS:

Classifications of structures and loads
Equilibrium, superposition and determinacy
Internal loadings in structural members
Truss analysis
Frame analysis
Deflection methods
Influence lines

Objectives and PIs

Course Objectives	Performance Indicator
1. Analyze determinate structures (truss, beam and frame) under static loading conditions.	(a)PI3: Students are able to apply knowledge of engineering (e)PI3: Students are able to solve engineering problems
2. Determine internal loads (axial, shear and moment) in structural members using equilibrium and compatibility equations.	(a)PI3: Students are able to apply knowledge of engineering (e)PI3: Students are able to solve engineering problems
3. Employ deflection methods for calculation of deflection.	(a)PI1: Students are able to apply knowledge of mathematics and physics (a)PI3: Students are able to apply knowledge of engineering (e)PI2: Students are able to formulate civil engineering problems
4. Determine reactions and internal loading in structural elements due to moving loads..	a)PI3: Students are able to apply knowledge of engineering (e)PI3: Students are able to solve engineering problems

5. Demonstrate progress in problem solving skills and analytical thinking.

(e)PI2: Students are able to formulate civil engineering problems

(k)PI1: Students are able to use the techniques and skills necessary for engineering practice