FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Structural Mechanics 3

Information :

Course Code :	SCM 411	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Structural Engineering & Construction Management

Instructor Information :

Title	Name	Office hours
Professor	Eman Anwer Mohamed Salem Elshamy	8
Professor	Eman Anwer Mohamed Salem Elshamy	8
Assistant Lecturer	Youssef Ahmed Elsayed Kamaleldin Ahmed Awad	6
Teaching Assistant	Ahmed Taher Abdelhamed Mohamed Yousef	
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Area Of Study :

ÅDeterminate the deformations and internal forces for different structural systems using the stiffness method

Description :

Elastic buckling of columns and beam columns, Stresses in circular plates under ax symmetric normal loads, Stresses in rectangular plates, Membrane stresses in shells of revolution and cylindrical shells.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	basic matrix formulation of the stiffness method
2 -	flexibility and stiffness matrices
b.Intellectual Skills: :	
1 -	Developing an understanding of the basic concepts of the stiffness method, and its application in the development of computer software packages for the structural analysis of structures
c.Professional and Practical Skills: :	
1 -	Development of a deep insight into the "stiffness" technique generally used in software packages for the analysis of structures, and the way these packages work
d.General and Transferable Skills: :	
1 -	Applications of the stiffness method

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Revision on prerequisite topics related to the course contents.	5	1	1
Slope-Deflection Method applied on plane beams and frames	15	3	3

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Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Fundamentals of the Stiffness Method and its application on plane beams, frames, and trusses	30	6	6
Stiffness Method applied on grids	10	2	2
Stiffness Method applied on space trusses	10	2	2

Teaching And Learning Methodologies :

Class Lectures

Tutorials

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final-term Examination	40.00		
Mid-Term Examinations	40.00		
Quizzes	10.00		
Semester Work	10.00		

Course Notes :

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Recommended books :

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Periodicals :

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Web Sites :

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