Faculty of Engineering & Technology

Applied Topics in Structural Analysis and Mechanics

Information :

Course Code :	SCM 516	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Department of Structural Engineering & Construction Management

Area Of Study :

Upon successful completion of this course, the student should be able to: - Understand the basic concepts and main principles - Calculate the values of the essential terms
Regarding load-deformation relationships computer analysis of structures dynamic properties modeling of high rise buildings modeling of bridges modeling of tunnels modeling of shells

Description :

Computer analysis and design of structures, Computer programming, Earthquake engineering, Dynamics of structures, Analysis of high-rise buildings, Analysis of bridges, Analysis of tunnels, Analysis of shell.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	List the main items of load-deformation relationships
2 -	Define the main terms of dynamic properties
b.Intellectual Skills: :	
1 -	Assess issues of computer analysis of structures
2 -	Calculate the values of dynamic properties
3 -	Analyze the system of modeling of high rise buildings
4 -	Analyze the system of modeling of bridges
5 -	Analyze the system of modeling of tunnels
c.Professional and Practical Skills: :	
1 -	Prepare technical reports for computer analysis of structures
2 -	Apply Code provisions regarding modeling of high rise buildings
3 -	Apply Code provisions regarding modeling of shells
d.General and Transferable Skills: :	
1 -	Search for information and self-learning discipline

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
load-deformation relationships	8	6	2
computer analysis of structures	8	6	2

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
dynamic properties	8	6	2
modeling of high rise buildings	8	6	2
modeling of bridges	8	6	2
modeling of tunnels	8	6	2
modeling of shells	8	6	2
Revision	4	3	1

Teaching And Learning Methodologies :

- Interactive Lec.
- Discussion
- Problem Solving

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Final exam	40.00		
Mid- Exam I, II	30.00		
Quizzes / Assig	15.00		
Report / Present	15.00		

Course Notes :

Lecture note on moodle

Recommended books :

Structural Dynamics, Theory and Computations, Mario Paz
The Seismic Design Handbook, 2nd Edition, F. Naeim (ed.), Van Nostrand Reinhold, New York, 2003.