

#### **Faculty of Engineering & Technology**

### **Computer Aided Structural Analysis**

#### **Information:**

Course Code: SCM 517 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 modeling of different structures simple programs for structural analysis ready-made programs for structural analysis applications

#### **Description:**

Selection of suitable models for analysis of different structures, Preparation of simple programs for analysis of structural elements, Training on using ready-made programs for analysis of structures, Applications

Course outcomes:		
a.Knowled	ge and Understanding: :	
1 -	Describe the main concept of modeling of different structures	
2 -	Explain the principals of simple programs for structural analysis	
3 -	List the main items of ready-made programs for structural analysis	
b.Intellectu	ual Skills: :	
1 -	Assess issues of modeling of different structures	
2 -	Analyze the system of simple programs for structural analysis	
3 -	Assess issues of ready-made programs for structural analysis	
4 -	Solve problems regarding applications	

## c.Professional and Practical Skills: :

1 -	Demonstrate presentation regarding simple programs for structural analysis
2 -	Prepare technical reports for ready-made programs for structural analysis

3 - Proceed test steps of the applications

## d.General and Transferable Skills::

1 - Demonstrate efficiently

Course Topic And Contents :			
Topic	No. of hours	Lecture	Tutorial / Practical
modeling of different structures	12	9	3
simple programs for structural analysis	12	9	3



Course Topic And Contents :			
Topic	No. of hours	Lecture	Tutorial / Practical
ready-made programs for structural analysis	16	12	4
applicationS	16	12	4
Revision	4	3	1

Teaching And Learning Methodologies:	
Interactive Lec.	
Discussion	
Problem Solving	
Lab Exper	
Report / Present	

Course Assessment :					
Methods of assessment	Relative weight %	Week No	Assess What		
Final exam	40.00				
Lab Exper	10.00				
Mid- Exam I, II	30.00				
Quizzes / Assig	10.00				
Report / Present	10.00				

# Course Notes: Lecture Notes on Moodle

## Recommended books:

ÆBeer, F. P., Russell, J.Jr., DeWolf, J.T. Mechanics of Materials, 4th edition, McGraw Hill, NY, ISBN-13: 9780073107950.

Ægere, J.M., Timoshenko, S. Mechanics of Materials, 4th ed., PWS, Boston, 1997.

Æenham, P.P., Crawford, R.J., Armstrong, C.G. Mechanics of Engineering Materials, 2nd edition, Longman 1997.