CB242 Strength of Materials

COURSE INFORMATION

Prerequisites		Academic Year & Level		Teaching Methods			Credit Hrs.
		Year	Semester	Lecture	Tutorial	Laboratory	
CB241	CB251	2	4	4	2	0	3

COURSE AIM

The course aims to give students the basic understanding of stress analysis of structural elements. It also covers the subjects of calculation of rotations and deflections of such elements and the stability of columns.

COURSE WEEKLY CONTENTS

1 Properties of Areas.
2 Properties of Areas. continue
3 Normal stresses - Axial stresses.
4 Normal stresses - Axial stresses. continue
5 Normal stresses - Bending stresses.
6 Normal stresses - Bending stresses. continue
7 Normal stresses - Thermal stresses + Midterm Exam
8 Direct shear stresses.
9 Shear stresses.
10 Torsional stresses.
11 Principal stresses and strains.
12 Principal stresses and strains (2) and 12th week assesment.
13 Elastic deflection of beams – Double integration.
14 Elastic deflection of beams – Conjugate beam.
15 Buckling of columns.

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	**20 Midterm**	← 10 MARKS To be freely distributed among possible assessments →					**30**
8 to 12	← 20 MARKS →						**20**
13 to 15	← 10 MARKS →						**10**
16 or 17	**40 Final**						**40**
Total	**Exams**	**Assign.**	**Quizzes**	**Reports**	**Present.**	**Lab.**	100

REFERENCES

Textbook Mechanics of Materials, BEER, F. and JOHNSTON, E.R., McGraw-Hill, New York, USA, 5th Edition, 2009.

Other Mechanics of Materials, R.C. HIBBELER ,McMillan, 6th Edition, 2013.
Mechanics of Materials, GERE and TIMOSHENKO, PWS-KENT, 8th Edition, 2013.