

BA 141 – Engineering Mechanics (1)
COURSE INFORMATION

Course Title: Engineering Mechanics (1).

Code: BA141.

Contact Hours (hours/week): Lecture – 2 Hrs. Tutorial – 2 Hrs.
Credit – 3.

Prerequisite: none.

Course Coordinator: Dr. El Tantawy Fared

G R A D I N G

Class Performance/Attendance: 10%
Midterm # 1/Assignments – (7th Week): 30%
Midterm # 2/Assignments – (12th Week): 20%
Final Exam: 40%

COURSE DESCRIPTION

Rectangular components of a force-Parallelogram law-Equilibrium of particle (2D-3D)-springs and cables-Moment of force-Free body diagram - Equilibrium of rigid body-Trusses “joint method-zero-force members” – Frames-Friction-Mass Moment of Inertia.

TEXT BOOKS

Engineering Mechanics (STATICS) by (R.C Hibbeler), Prentice Hall

COURSE AIM

The aim of the course is to provide the student with an introduction to many of the fundamental concepts in Mechanics

COURSE OBJECTIVES

The course treats only rigid-body mechanics, since it forms a suitable basis for the design and analysis of many types of structural, mechanical or electrical devices encountered in engineering

COURSE OUTLINE

Week Number 1: Rectangular components of a force.

Week Number 2: Parallelogram law.

Week Number 3: Equilibrium of particle – springs and cables.

Week Number 4: Moment of force.

Week Number 5: Free body diagram.

Week Number 6: Equilibrium of rigid body.

Week Number 7: Exam # 1.

Week Number 8: Trusses “joint method – zero – force members”.

Week Number 9: Trusses “method of section”.

Week Number 10: Frames.

Week Number 11: Frames (cont.).

Week Number 12: Exam # 2.

Week Number 13: Friction

Week Number 14: Mass Moment of Inertia

Week Number 15: Revision

Week Number 16: Final Exam.