

**BA142 Engineering Mechanics II**

COURSE INFORMATION

Prerequisites	Academic Year & Level		Teaching Methods			Credit Hrs.
	Year	Semester	Lecture	Tutorial	Laborator y	
BA141	1	2	2	2	0	3

COURSE AIM

The course objectives are to study the geometry of motion (Kinematics) as well as the relationship between the motion of a body and the forces and moments acting on it (Kinetics).

COURSE WEEKLY CONTENTS

- 1 Kinematics of a particle – Rectilinear Kinematics.
- 2 Curvilinear motion : Rectangular components, projectile motion.
- 3 Force and acceleration (Kinetics), Newton’s laws.
- 4 Work and energy of a particle (kinetics)
- 5 Rotation of a rigid body about a fixed axis.
- 6 General plane motion.
- 7 Midterm Exam
- 8 General plane motion: Relative motion- velocity.
- 9 General plane motion: Relative motion- acceleration
- 10 Planar Kinetics of a rigid body: Equation of translational motion
- 11 Planar Kinetics of a rigid body: Equation of rotational motion.
- 12 12th week assessment
- 13 Planar Kinetics of a rigid body: Equation of General plane motion
- 14 Work and Energy
- 15 Review

STUDENT GRADING & ASSESSMENT

Weeks	Exams	Assign.	Quizzes	Reports	Present.	Lab.	Total
1 to 7	20 Midterm	←	10	MARKS		→	30
To be freely distributed among possible assessments							
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** R.C. Hibbeler “ Mechanics for Engineers: Dynamics ” 13th. Edition, Pearson, 2013.

**Other**