



Course specification

University/Academy: Damanhour University

Faculty/Institute: Science

Department: Mathematics

1. course Data:

Course code: Math103	Course title: Applied Mathematics (Statics and Dynamics)	Academic year/level: 2007-2008 First year - First term
Specialization: جميع التخصصات لمجموعة العلوم الرياضية والفيزيائية	No. of instructional units: lecture <input type="text" value="3"/> tutorial <input type="text" value="3"/> practical <input type="text" value="-"/>	

2. course Aim

Demonstrate theoretical knowledge and have practical skills and competence that will be required for an applied mathematics position. Have an opportunity to put theory into practice via work-based learning

3. Intended learning outcome

a) Knowledge and understanding	a1. Define the nature and operations of Mechanics. a2. Recall the factors which influence the field of Mechanics. a3. Identify the steps required to solve a problem in Mechanics.
b) Intellectual skills	b1. Apply appropriate theories, principles and concepts relevant to mechanics. b2. Analyze a reasoned argument to the solution of familiar and unfamiliar problems relevant to mechanics.
c) Professional skills	c1. Plan practical activities using techniques and procedures appropriate to mechanics;



	c2. Collect physical phenomenon using methods learned in the course
d) General skills	d1. Set tasks and solve problems relevant to mechanics using ideas and techniques some of which are at the forefront of the discipline d2. Deal with the ability to self appraise and reflect on practices relevant to mechanics.
4. course content	1-Vectors, the main algebraic operations on vectors. 2- More on vector arithmetic's. 3-The resultant of a system of forces and their equilibrium 4-Equilibrium of a system of connecting bodies, frameworks 5-Frictional forces, field of equilibrium. 6-Kinematics of particles 7-The laws of motion and projectilier 8-Work, kinetic energy and potential energy; 9-Hooke's law and simple Harmonic motion 10-Impulse, Impulsive forces, I 11-Impact of elastic bodies and impulsive tensions in strings. 12-Motion in a straight line with variable acceleration.
5. Teaching and learning methods	5.1 Lectures. 5.2 Tutorials 5.3 Homework 5.4 Oral discussion
6. teaching and learning methods for students with special needs	Non



7. Student Assessment

a) Procedures used:	Mid term Final exam
b) Schedule:	Assessment 1 Midterm Exam Week 8 Assessment 2 Final exam Week 15
c) Weighing of Assessment:	Class tests 50 Marks (25%) Final exam 150 Marks (75%)
List of Textbooks and References:	
d) Course Notes	Course notes provided by the staff member of Math department, to be handed at the beginning of the semester.
e) Required Books (Textbooks)	J. Littlewood, J. Hobborn, F. Norton, Mechanics 1, Cambridge University press, 1972 Loney, S. L., Dynamics of particle, Cambridge Loney, S. L., The elements of statics and dynamics, part I and II, Cambridge Ramsey A., Dynamics, Part I
f) Recommended Books	A. Ruina and R. Pratap, Introduction to statics and dynamics, Oxford University Press 1994
g) Periodicals, web sites,....,etc	None

Course Instructor: Prof. Dr. Samy E. Kassem

Dr. El-Sayed I. Saad

Head of Department: Dr. Ragab Omar Abd El-Rahman

Date: -----/-----/-----