



Course specification

University/Academy: Damanhour University

Faculty/Institute: Science

Department: Mathematics

1. course Data:

Course code: Math104	Course title: Applied Mathematics (Statics and Dynamics)	Academic year/level: 2007-2008 First year - Second 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. Mention 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-Virtual work- Stability
	2- Bending moment
	3-Flexible chain and strings
	4-Centre of gravity
	5-Motion in two dimensions in terms of Cartesian coordinates- Projectile.
	6- Motion in two dimensions in terms of polar coordinates: Areal velocity-the apse and the apsidal distance
	7-Center of gravity.
	8- Impulse, Impulsive forces
	9-Impact of elastic bodies and impulsive tensions in strings
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 7 Assessment 2 Final exam Week 15



c. Weighing of Assessment:	Test1 50 Marks (25 %) Final exam 150 Marks (75%)
8. List of Textbooks and References:	
a. Course Notes	Course notes provided by the staff member of Math department, to be handed at the beginning of the semester.
b. Required Books (Textbooks)	J. Littlewood, J. Hobborn, Mechanics 2, Heinemann educational publishers, 1972. D Humphrey Edited by J Topping, Intermediate Mechanics volume 2 statics, 1971.
c. Recommended Books	Dan Edwin Christic, Vector mechanics, McGraw-Hill Book Company, 1961. H. Ziegler, Mechanics, Addison –Wesley publishing company, Inc 1965. I. Wood, Mechanics Fundamentals, By:, Mc Graw-Hill, 1996
d. 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: / /