



Course Specifications

Program(s) on which this course is given:	Aerospace engineering
Department offering the program:	Aerospace engineering
Department offering the course:	Mechanical Design & Production
Academic Level:	Year Aerospace (3 rd Year in a five-year program)
Date	November, 2007
Semester (based on final exam timing)	<input type="checkbox"/> Fall <input type="checkbox"/> Spring

A- Basic Information

1. Title:	Machine design	Code:	MDP 220				
2. Units/Credit hours per week:	Lectures	1 Hr	Tutorial	2 Hrs	Practical	Total	3 Hrs

B- Professional Information

1. Course description:	Teaching the students the basic skills of designing basic machine components
2. Intended Learning Outcomes of Course (ILOs):	a) Knowledge and Understanding
	A1- Materials section
	A2- Design procedure
	A3- Design and selection of basic machine components
	b) Intellectual Skills
	B1- Creative thinking
	B2- Systematic analysis of components stress
	B3- Decision making
	c) Professional and Practical Skills
	C1- Design problem solving
	C2- Proper design of machine components
	C3- Using standards and codes
	d) General and Transferable Skills
D1- Design report preparation	
D2- Participation in team work	
D3- Use of internet	

3. Contents

Topic	Total hours	Lectures hours	Tutorial/ Practical hours
Design Procedure	4	2	2
Materials Selection	4	2	2
Stress Analysis	8	4	4

Failure Theories	8	4	4
Design of Joints	20	10	10
Design of Basic Machine Components	52	26	26
Total	96	48	48
	Class Activity ()	Case Study ()	Projects (*)
	E-learning (*)	Assignments /Homework (*)	Other:

5. Student Assessment Methods

• .Assessment Schedule	Week
-Assessment 1;Final exam	Week 30
-Assessment 2; Mid term	Week 10, 20
-Assessment 3; Projects	Week: during the full academic year
-Assessment 4; Internet report	Week: 15-20
• Weighting of Assessments	
-Mid-Term Examination	15%
-Final-term Examination	60%
-Project	
-Practical examination	5%
-Semester work	20
-Total	100

6. List of References

6.1- Course notes, slide notes by Dr. M.Z. Abdo
6.2- Essential books (text books):. J.E.Shigley , C.R.Mischke and R.G.Budynas ,
6.3- Recommended Books: <ol style="list-style-type: none"> 1. G.Pahl and W. Beitz, "EngineeringDesign: A SystematicApproach", Springerler Verlag, London Limited ,1996 second Edition 2. R.L.Mott, "Machine Elements in Mechanical Design", Prentiice Hall 1999
6.4- Periodicals, Web Sites, ... etc

7. Facilities Required for Teaching and Learning

Videos films	
Course Coordinator:	Prof. M.O.A.Mokhtar
Head of Department:	Prof. Dr. Atef Sherif