INME312 Computer Aided Manufacturing/Design

Curricular Area	Manufacturing Processes
Type of Course	Mandatory – Major
Catalogue Description	Gaining the required
Prerequisites by Courses	MCHE 201
Prerequisites by Topics	Engineering Drawings " Auto CAD "
Instructors	Zeidoun Zeidan - Lecturer z.zeidan@bau.edu.lb Department of Industrial and Engineering Management Office: F130 (Phone Ext 3454)
Office Hours	T 8:00-9:00, W 9:00-10:00, F 10:00-12:00
Load	3 credits; 2 Lecture-sessions/week – 90 min per session
Textbook	Paul Tran (Author) **Paperback:** 768 pages **Publisher:** SDC Publications (December 12, 2014) **Language:** English **ISBN-10:** 1585039438 **ISBN-13:** 978-1585039432 **Product Dimensions:** 1.2 x 8.5 x 10.5 inches 
Reference Books	Engineering Design with SolidWorks 2015 and Video Instruction David C. Planchard (Author),**Perfect Paperback:** 864 pages**Publisher:** SDC Publications (November 21, 2014)

	Subjects covered
Week 1	Syllabus/ Introduction
Week 2	Getting started with Solid works 2D (drawing lines, arcs, ..) and 3D modeling (Extrude …..)
Week 3	Revolve, Revolve cut, Shell, adding features geometry and holes and threads.
Week 4	Sweep and loft
Week 5	Chamfer, fillet, psttern, and Rib commands
Week 6	Working an an assembly environment
Week 7	Class work and practice session
Week 8	Generating CAD drawing
Week 9	Writing G-code for milling and drilling operations
Week 10	Calss work and practice session for G-code
Week 11	Mid term
Week 12	Calss work and practice session
Week 13	Finite element analysis "member test"
Week 14	Finite element analysis "Mechanism test"
Week 15	Final Exam

Learning Outcomes Correlation with	Program Outcomes	Program Objectives
1. Use Work features in the modeling work environment.	a,b,e	1,2
2. Develop advanced part model features	a,b,e	1,2
3. Work with solids.	a,b,e	1,2
4. Create part drawings.	a,b,e	1,2
5. Create parts assembly	a,b,e	1,2
6. Finite element analysis for static simulation	a,b,e	1,2
7. Writing G – codes for milling and drilling processes	a,b,c,e	1,2
8. Writing G – codes for turning processes	a,b,e	1,2
9. Simulating CNC operations and generating G-codes	a,b,e	1,2
10. Operating the CNC Router in the industrial lab	a,b,e	1,2

Assessment:

Assessment:	Dates	Weighing
Attendence	Per announcement	10%
Class works	Per announcement	10%
Projects CAD + CAM	Per announcement	10%
Mid Term	Per announcement	30%
End of term Exam	Exam period	40%

Attendance:

As set by BAU regulations, and specified in Student Manual, students who miss more than one-fifth of the sessions of any course in the first ten weeks of the semester will be required to withdraw from the course with a grade of "WF".

Course Coordinator	Dr. Hadi Abou Chakra
Date	