The University of Jordan
School of Engineering

Department	Course Name	Course Number	Semester
Mechanical Engineering	Machine Drawing	0904233	

2019 Course Catalog Description

Mechanical engineering drawing conventions and abbreviations, various systems of size description, including precision dimensioning, fastening elements, standard organization and preparation of engineering drawings, assembly and detailed drawings, design applications.

Instructors

Name	E-mail	Sec	Office Hours		Lecture Time	

Text Books

	Text book 1	Text book 2
Title	Engineering Design Graphics.	Creo parametric tutorial , version 2
Author(s)	Earle, James	
Publisher, Year, Edition	Prentice Hall, 2004, 11th Edition.	

References

Books	1. Machine Drawing, K.L Narayana, P. Kannaiah, K. Venkata Reddy 2. Engineering Drawing , A.W. Boundy 3. Manual of engineering drawing, Colin H. Simmons, Dennis E. Maguire, 2002.
Journals	
Internet links	http://www.ptc.com https://sites.google.com/a/umn.edu/me2011/creo-parametric.

Prerequisites

Prerequisites by topic	-
Prerequisites by course	Engineering drawing (0904131)
Co-requisites by course	-
Prerequisite for	-

Topics Covered

Week	Topics	Chapter in Text	Sections
1	Introduction to Creo parametric software. Starting with creating a 2D sketch.	*Textbook* 2	
2	3D modeling using Extrude. Rounds and chamfer.	*Textbook* 2	
3	3D modeling using revolve. Using pallete in the sketch	*Textbook* 2	
4	Using constrains, mirror, datum planes.	*Textbook* 2	
5,6	3D modeling using sweep and swept blend.	*Textbook* 2	
7	3D modeling using helical sweep. How to make pattern.	*Textbook* 2	
8	Exercises.	*Textbook* 2	
9	Midterm exam	*Textbook* 2	

10,11,12	Assembly modeling.	*Textbook* 2	
13	Sections.	*Textbook* (Ch.16)	
14	development	*Textbook 1*(Ch.31)	
15	Limits, tolerance and fits, Welding, bearing, fasteners.	*Textbook* 1(Ch.17, 21)	

Mapping of Course Outcomes to ABET Student Outcomes

SOs	Course Outcomes
1	1. Develop skills needed for using engineering drawing tools.
3	2. Develop and ability to communicate graphically using various engineering tools including a modern computer graphic package. 3. Introducing the fundamentals of descriptive geometry for spatial visualization and its role to solve different engineering problems. 4. Ability to become familiar with office practice and standards and prepare students for future engineering positions.
7	5. Emphasize the need for lifelong learning by encouraging learning Creo. Software and its user interface to produce 2D and 3D detailed drawings.

Evaluation

Assessment Tools	Expected Due Date	Weight
Homework, classwork and Quizzes		10%
Project		10%
First Exam		20%
Second Exam		20%
Final Exam		40%

Contribution of Course to Meet the Professional Components

This course is one of the first opportunities for engineering students to encounter the fundamental principles of design problem solving. It is an important prerequisite course for a number of design related courses, which occur later in the programs of engineering students.

Relationship to Student Outcomes

SOs	1	2	3	4	5	6	7
Availability	X		X				X

Relationship to Mechanical Engineering Program Objectives (MEPOs)

MEPO1	MEPO2	MEPO3	MEPO4	MEPO5

ABET Student Outcomes (SOs)

1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3	An ability to communicate effectively with a range of audiences
4	An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

5	An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6	An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7	An ability to acquire and apply new knowledge as needed, using appropriate learning strategies
Updated by ABET Committee, 2021	