



Philadelphia University

Faculty of Engineering and Technology
Department of Mechanical Engineering

Course Information

Course Title: Mechanical Drawing (620313)

Prerequisite: Engineering Drawing (620232)

Credit Hours: credit hours (16 weeks per semester, approximately 44 contact hours)

Textbook: A textbook of machine drawing-7th Edition, by Gill, Pritam Singh
A Tutorial Guide to Pro/Engineer 2004

References: Dynamics-7th edition by J. Meriam and L. Kraig

Course Description: This course Introduce a knowledge to Engineering Drawing; Sketching, Assembly Drawing, Theory of Orthographic Projection, Pictorial Drawing; Isometric and Oblique, Drawing Sections, Working Drawing, Dimensioning,). Applications Covers Subjects Related to Mechanical Engineering Areas. . It is to provide students with an integrated treatment of the mechanical drawing aspects.

Course requirements: Computer, internet connection and webcam

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Course Topics:

Week	Topic
1	Introduction
2	Review Isometric Drawings 3D(Orthographic Drawings)
3	Kinds of Sectional Drawing and Hatching
4	Types of Threads And Fasteners Drawings
5	Bolts and Nuts Drawing
6	Springs and Keys Drawings
7	Mid Term Exam
9	Bearing Drawing
10	Details,Assembly Drawing I
11	Details,Assembly Drawing II
12	Dimensioning System
13	Gears Drawing
14	Tolerance System

15	Disassembly Drawings
16	Final Exam

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

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should be able to:

1.	Get information about the important tools for engineering drawing. This will give student basic knowledge of technical drawings professions and means of communications to others.	2
2.	Learning how to draw the shapes, angles and lines and others which is essential for engineer	2
3.	Develop student's imagination and ability to represent the shape size and specifications of physical objects.	2
4.	Understand the main idea of using dimension for engineering drawing	2
5.	Familiarize with different drawing equipment, technical standards and procedures for construction of geometric figures. This will give students ability to draw three dimension objects on the paper and to draw the pictorial drawings.	2
6.	Explain the principle of projection and sectioning	2
7.	Understand the intersection, development of surface of body and fasteners	2
8.	Learning the main idea from assembly and detail drawing	2

Teaching methodology: Online, Blended or both

Electronic platform: Microsoft-teams

Evaluation methods:

Evaluation of student's performance (final grade) will be based on the following categories:

Mid-term exam: Shall be given at the end of the seventh week of the course in the form of multiple choice questions and (or) specific problems to be solved and uploaded by the student using the University electronic platform.

Quizzes: A number of 10-minute quizzes in the form of multiple choice questions or an assignment using the University electronic platform. will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).

Homework: Drawings sets will be given to students in the form of assignments using the University Electronic platform. Homework should be solved by each student individually and submitted using the platform before the due date.

Copying Drawings is forbidden, any student caught copying the homework or any part of the homework will receive zero mark for that homework

Participation: Questions will be asked during the online session (lecture) and the student is assessed based on his/her response

Final Exam: The final exam will cover all the class material.

Grading policy:

Mid-term Exam.	30%
Home works, Quizzes and participation	30%
Final Exam	40%
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Total:	100%

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.