



Philadelphia University

Faculty of Engineering–Mechanical Engineering Department
Second Semester 2020/2021

Course Details:

Title: Workshop 1 (620171)
Prerequisite: Computer Engineering Drawing (Auto CAD)(620132)
Credit Hours: 1 Credit Hour (16 weeks per semester, approximately 32 contact hours)
Textbook: Given Handouts

Description: Development of basic skills in fields of hand filing, Turning, Welding, Piping and plumbing, Carpentry, Sand casting, Glass works, Sheet metal fabrication, Metal forming.

Prerequisite: Computer Engineering Drawing(Auto CAD)(620132)

Website: <http://www.philadelphia.edu.jo/academics/aateyat>

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Course Outlines:

Week	Topics
(1)	Introduction to Engineering Workshops, and Safety instructions
(2)	Introduction to Engineering Measurements
(3-5)	Carpentry Workshop (Basic Carpentry issues and practice)
(6-7)	Drilling and Threading (Internal and External) workshop
	Mid-term Exam
(9-11)	Metal forming (Cut, Folding and Welding, other Sheet Metal Fabrication)
(12-13)	Other operations (Hand filling, Piping, and Plumbing)
(14-15)	Basic electrical circuits (Parallel and series circuits, Switches and Fuses Installations)
	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.	Understand the concepts of Safety and precaution systems, and tool handling.	[1, 2]
2.	Practice deferent manufacturing processes	[1, 2]
3.	Develop data acquiring methods and use different measurement equipments	[1, 2, 6]
4.	Tackle basic electrical circuits, designs and confederations	[1, 2, 4]
5.	Communicate with others through assignment presentations	[2, 3, 4]

Teaching methodology: Online, Blended or both

Electronic platform: Microsoft-teams

Evaluation methods:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Mid-Exams: The students will be subjected to a scheduled written exam, during the semester. The exam will cover materials given in lectures in about the previous 8 weeks.

Quizzes: Three quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

project: A project assignment will be handed to the students. The assignment will ask the students to design, simulate, and produce a mechanical part using CNC machine and 3D printer. Students will be asked to download the students version of Fusion 360 software and use it as part of the design application.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid-Term Exam	30%
Quizzes & Project	30%
Final Exam	40%
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Total:	100%

Attendance Regulation:

The semester has in total 32 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from attending the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.