



Philadelphia University

Faculty of Engineering - Department of Mechanical Engineering
first Semester 2020/2019

Course Information

Title: Strength of materials lab (620314)

Prerequisite: Solid Mechanics (620213)

Credit Hours: 1 credit hours (2 hours/ week, 14 weeks per semester)

Textbook: Lab manual

References: Mechanics of Materials- 4th edition Gear

Description: The course is a requirement for Mechanical and Civil engineering students. It introduces practically concept of mechanical properties of materials.

Instructor: Eng. Lina Al-Khateeb

Office: Mechanical Engineering building, room E612211 , ext. : 2361

Office hours: Mon, Wed.: 10:00-11:30

Experiments:

Week	Exp.
1	- Introduction to strength of materials
2	- Tensile test
3	- Hardness test
4	- Creep test
5	- Buckling test
6	- Fatigue test
7	- Impact test
8	- Shear and bending test
9+10	- Load of mechanical cell
11	- Summary of lab
12	- Practical final exam
13	- Theoretical final exam

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 mechanical properties and demonstrate background of the theoretical aspects.	[1]
2.	Analyze the data which using in experiments and apply the elements of data statistics.	[1, 2]
3.	Prepare the students to have hands on experiments and to have exposure to equipment and machines	[4, 6,7]
4.	Prepare the students to solve problems related to their course work.	[2]
5.	Encourage the students to use computers in analyzing the data.	[1, 2]
6.	Compare the theoretical results with experimental one.	[6, 7]

Assessment Instruments:

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

Reports: For Each experiment one report must be written by the student to analyses the results of the experiment

Quizzes: 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous labs.

Final Exam: The final exam will cover all the labs material. it will be divided to practical part and theoretical part.

Grading policy:

First	20% (10% Reports, 10% Quiz)
Second	20% (10% Reports, 10% Quiz)
Third	20% (10% Reports, 10% Quiz)
Final Exam	40% (30% Practical, 10% Theoretical)
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.

September , 2019