



Philadelphia University
Faculty of Engineering
Mechanical Engineering Department

Course Outline

Course Name : strength and properties of materials Lab (620366)

<u>Week</u>	<u>Experiment</u>
(1)	Introduction
(2)	Tensile Test
(3)	Fatigue Test
(4)	Application of Mechanical Load Cell
(5)	Shear Test
(6)	Impact Test
(7)	Creep Test
(8)	Hardness Test
(9)	Compression Test
(10)	Examination of Material Microstructure.
(11)	Torsion Test

Pre – request

- Properties of Engineering Materials

Grading

1. 50% Lab work (quizzes and in lab reports) :
 - i. 15 Marks on the first four experiments
 - ii. 15 Marks on the second four experiments
 - iii. 5 Marks on the last two experiments
 - iv. 10 Marks on quizzes
 - v. 5 Marks on term project
2. 50% final Exam:

Attentions

- 1- **Absence:-** two absence are allowed with accepted excuse and the experiments must be recovered. Any exceeding for the permitted absences will be restricted from taking the final exam
- 2- **Reports:-** the report must be delivered after one week from the experiment in the lab time. No late reports are accepted for any reason and it will be graded as **zero**. The short and full reports must follow the standards of report writing procedures. Any copied reports will be graded zero.
- 3- **The late on the lab time:-** the student is allowed to enter the lab after **10 minutes** from the starting the lab only.
- 4- **Discipline:-** any student make any disturbance in the lab will be dismissed immediately
- 5- **Dismissing:-** no student is allowed to dismiss from the lab until the lab is finished fro any excuse

Report Writings

- 1- **Introduction:-** includes the system description and the objectives of the experiment .
- 2- **Theory:-** include the mathematical model, the derivation of equations and the final shape of the governing equation
- 3- **Collected Data:-** includes the data been collected illustrated in the provided tables
- 4- **Sample of Calculations:-** include one sample of calculations described deeply
- 5- **Results:-** includes all the results been obtained illustrated in figures and tables been provided
- 6- **Discussion:-** includes the understanding of what this experiment implies and the answer of the provided questions
- 7- **Conclusion :-** includes all the conclusions of the experiment implementation

Notes:-

- * The reports can be handwritten or computer written
- * The computer written reports must have 2.0 line spacing