



## Philadelphia University

Faculty of Engineering - Department of Mechatronics Engineering

### Course Details:

<b>Title:</b>	<b>Engineering Project (2) (0640540)</b>
<b>Prerequisite:</b>	Engineering project (1) (0640440)
<b>Course Type:</b>	Compulsory
<b>Class Time:</b>	7:10 – 8:00 Sun, Tus
<b>Credit Hours:</b>	8 weeks per semester, 3 hours every week, total 24 hours
<b>Course Description:</b>	This course is for students who finished engineering project (1) and are going to implement their work as prototypes. Every student should be inside group of three students and are to be supervised by their project supervisor. The students should submit a report detailing their work and present it in the final projects' discussions.
<b>References:</b>	<ul style="list-style-type: none"> <li>• Technical Writing: A Practical Guide for Engineers and Scientists, 2nd Edition, by Phillip A. Laplante, 2018.</li> <li>• Clear and concise communications for scientists and engineers, Speight, J. G. c2012.</li> <li>• Communicating science : a practical guide for engineers and physical scientists, Boxman, R. L., author.; Boxman, Edith Selina, 2017.</li> <li>• How to Write Technical Reports: Understandable Structure, Good Design, Convincing Presentation by Heike Hering and Lutz Hering, 2019.</li> <li>• Mastering Project Time Management, Cost Control, and Quality Management: Proven Methods for Controlling the Three Elements That Define Project Deliverables (FT Press Project Management) 1st Edition by Randal Wilson, 2015.</li> <li>• A Guide to the Project Management Body of Knowledge(PMBOK® Guide), Fifth Edition</li> </ul>

### Course outline:

Week	Topic
(1)	Introduction, Report Template Overview
(2)	Teamwork: members roles, timeline and time management,
(3)	Teams build prototypes
(4)	Teams build prototypes
(5)	Teams build prototypes
(6)	Teams build prototypes
(7)	Teams build prototypes
(8)	Teams build prototypes
(9)	Midterm Presentations
(10)	Teams build prototypes
(11)	Teams build prototypes
(12)	Teams build prototypes
(13)	Teams build prototypes
(14-15)	Project presentation+ discussion

## **Course Learning Outcomes with reference to ABET Student Outcomes:**

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

1.	Design Mechatronic systems to solve an important engineering problem.	[1]
2	Design Mechatronic systems that meet specified needs and constraints.	[2]
3	Write the report of the graduating project effectively.	[3]
4	Present their work in front of audience.	[3]
5	Recognize the impact of engineering solutions on environment, community, economy.	[4]
6	Work effectively within a team.	[5]
7	Conduct experimentation and analyze results	[6]
8	Ability to acquire and apply new knowledge using appropriate learning strategies	[7]

### **Assessment Guidance:**

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

**Midterm Exam:** Due after 8<sup>th</sup> week. Students will present their up-to-date work progress.

**Final Report** Due on 13<sup>th</sup> week. Students submit final version of their report according to the department template.

**Final presentation:** Due on the 14<sup>th</sup> week. Students will present their final work.

### **Grading policy**

Midterm Exam	Report+ presentation	20%	Instructor
Final Exam	Final Report	20%	Supervisor
	Final presentation & assessment	60%	Instructor+ Supervisor
Total:		100%	

### **Attendance Regulation:**

The semester has in total 45 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 sitting 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.

