



Philadelphia University

Faculty of Engineering and Technology
Mechatronics Engineering Department

Course Details:

Title: Mechatronics project (0640342)

Prerequisite: Microprocessors and Microcontrollers (0640328)

Credit Hours: 1 credit hours (15 weeks per semester, approximately 15 contact hours)

Description: This class prepares the student to initiate and develop a basic mechatronics project

Website: <https://www.philadelphia.edu.jo/academics/ssalah/>

Course Outlines:

Week	Topic
(1)	Introduction, Report Template Overview.
(2)	Project Selection (group based).
(3)	Team work: member's roles, timeline and time management.
(4)	Abstract, Figures and Tables. Problem Definition; Aims and Objectives.
(5)	Background and Literature Review.
(6)	Preparing the project budget and list of components.
(7)	References, Citation and Appendices.
(8)	Presentation skills.
(9)	Midterm Presentations (full simulation).
(10)	Engineering standards and designs constraints.
(11)	Hardware Assembling.
(12)	Implementation, results and analysis.
(13)	Conclusions and future work.
(14-15)	Project presentation discussion (hardware + report).

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Practice hands-on of assembling and operating a mechatronics system.	[6]
2.	Understand engineering standards and constraints related to mechatronics systems.	[2]
3.	Ability to effectively write the report for the project.	[3]
4.	Ability to effectively present a work in front of audience	[3]
5.	Ability to prepare a project budget and list of components.	[2]
6.	To work effectively within a team.	[5]
7.	Ability to conduct literature review	[7]
8.	Understand the impact of the project outputs on global, economic, environmental, and societal context	[4]

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 th week. Students will prepare and present: the project problem, objective and literature review.
Final Report	Due on 13 th week. Students submit final version of their report according to the department template.
Final presentation:	Due on the 14 th week. Students will present their final work.

Grading policy:

Midterm Exam	Report+ Presentation +Simulation	30%	Instructor.
Final Exam	Final Report	30%	Instructor.
	Final presentation + HW + Simulation	40%	Instructor.
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.