Philadelphia University
Study Plan (2024-2025)
B.Sc. in Mechatronics Engineering

Faculty of Engineering and Technology

Student Name: _____
Student No : _____
Academic Advisor: _____

Total Credit Hours (160) Hrs.

First: University Requirements (27) Cr. Hr.
A. First Field: University Compulsory Requirements: (18) Cr. Hr.

Course No.	Course Title	Cr.Hrs	Prerequisite	Kind of Learning
115001	Military Science *	3	---	ONLINE
116101	National Education	3	---	ONLINE
116102	Entrepreneurship, Innovation, and Leadership skills	3	---	ONLINE
116103	Communication and Contact Skills (Arabic Language)	3	116099	Physical
116107	Communication and Contact Skills (English Language 1)	3	116098	Physical
116108	Communication and Contact Skills (English Language 2)	3	116107	Physical
116109	Voluntary Community Service	0	---	ONLINE

* Compulsory for Jordanian Students

B. University Elective Courses (9) Cr. Hr.
The student studies 9 credit hours from the table below:

Course No.	Course Title	Cr. Hr.	Prerequisite	Kind of Learning
116105	Thinking Skills	3	---	Blended
116106	Economic Culture	3	---	Blended
116111	Language Skills (1) (European or Eastern languages)	3	---	Blended
116112	Language Skills (2) (European or Eastern languages)	3	116111	Blended
116113	Language Skills (3) (European or Eastern languages)	3	116112	Blended
116114	Introduction to Project Management "For Non – Engineering Students"	3	---	Blended
116143	Legal Culture	3	---	Blended
216102	Data Analysis Skills " For Non-Engineering Students"	3	---	Blended
216104	Digital Culture	3	---	Blended

Notes: -
All students must take level examinations in Arabic Language, English language and Computer skills. Student who fails to pass in any examinations (less than 50 %) must successfully pass the remedial course which He / She did not pass.

Codes used in Curriculum:
(610) Electrical Eng. (620) Mechanical Eng.
(640) Mechatronics Eng.

Second: Faculty Requirements: (24) Cr. Hr.

Course No.	Course Title	Cr.Hr.	Prerequisite	Kind of Learning
216111	Calculus (1)	3	---	Physical
250102	Calculus (2)	3	216111	Physical
216131	General Physics (1)	3	---	Physical
216132	General Physics (2)	3	216131	Blended
620130	Manual Engineering Drawing	1	---	Physical
620132	Computer Engineering Drawing	1	620130	Physical
620171	Engineering Workshop (1)	1	---	Physical
610263	Programming Language	3	216099	Blended
640253	Engineering Skills	3	116108	ONLINE
610550	Entrepreneurship	3	640253	ONLINE

Third: Department Requirements (109) Cr.Hrs.
A. Compulsory Requirements: (80) Cr.Hrs.

Course No.	Course Title	Cr.Hr.	Prerequisite	Kind of Learning
610218	Electrical Circuits	2	216132	Physical
610216	Electrical Circuits Lab.	1	(*)610218	Physical
610242	Electronics (1)	3	610218	Blended
640234	Statics and Strength of Materials	3	216131	Blended
640233	Dynamics and Vibrations	3	640234	Blended
610220	Logic Circuit	3	610263	Physical
640221	Programming Lab for Mechatronics	1	(*)610263	Physical
640327	Modeling and Simulation	3	640233+610260	Physical
610310	Electrical Machines	3	610218	Physical
640312	Power Electronics and Drives	3	610310+610242	Physical
640313	Communication for Mechatronics	3	610242	Blended
640242	Instruments and Transducers	3	610242	Physical
640337	Mechanics and Vibration lab	1	640233	Physical
640328	Microprocessors and Microcontrollers	3	610220	Physical
640344	Automatic Control Theory	3	640327	Physical
620333	Machines Theory	3	640233	Physical
640342	Mechatronics Project	1	640328	Physical
640415	Machine and Power Electronics lab	1	(*)640312	Physical
640424	Machine Intelligence	3	610263+650364	ONLINE
640445	Programmable Logic Controllers	3	640328	Physical
640441	Digital Control	3	640344	Physical
640442	Automatic Control Lab	1	(*)640344	Physical
640412	Electronics and Transducers Lab	1	(*)640242	Physical
640448	Microcontrollers Lab	1	(*)640328	Physical
640458	Reverse Engineering	3	640342	Blended
640435	Pneumatic and Hydraulic Systems	3	640445(*)	Physical
640447	Mechatronics Systems Design	3	640344+640312	Physical
640545	Robotics	3	620333+250205	Physical
640544	Mechatronics Systems Design Lab	1	(*)640447	Physical
640541	CAD/CAM Lab	1	(*)620132	Physical
640531	Automation and Fluids Control Lab	1	(*)640435	Physical
640543	Signals Processing for Mechatronics	3	640313	Blended
640440	Engineering Project (1)	1	Passing 100 Cr.Hr	Physical
640540	Engineering Project (2)	2	640440+640499(*)	Physical
640499	Engineering Training	3	Passing 115 Cr.Hr(**)	Physical

B. Compulsory Support Requirements: (20) Cr. Hr.

Course No.	Course Title	Cr.Hr	Prerequisite	Kind of Learning
216141	General Chemistry (1)	3	---	Physical
216143	General Chemistry Lab.	1	216141	Physical
250202	Calculus (3)	3	250102	Physical
250205	Linear Algebra and Vector Calculus	3	250102	Blended
610262	Engineering Analysis (2)	3	250205	Blended
620172	Engineering Workshop (2)	1	620171	Physical
610260	Engineering Analysis (1)	3	250102	Blended
610364	Probability and Random Variables	3	026016	Blended

C. Elective Requirements: (9) Cr. Hr.

Course No.	Course Title	Cr.Hrs	Prerequisite	Kind of Learning
640516	Real Time Systems	3	640344	Blended
640593	Special Topics in Mechatronics	3	Dept. Approval.	Blended
640512	Computer Numerical Control	3	(*)640541	Blended
640462	Process Control	3	640344	Blended
640425	Machine Learning	3	640424	Blended
650562	Internet of Things	3	640313	Blended

(*) *Concurrent*
(**) Seven weeks (280 hours) of training after completing (115) Cr.Hrs.

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