

**Philadelphia University**  
**Faculty of Engineering and Technology**  
**Mechatronics Engineering Department**  
**Advisement Plan 2018-2019**

First Semester				Second Semester			
(First Year)				(Second Year)			
Course No.	Course Title	Prerequisite	Cr.Hr.	Course No.	Course Title	Prerequisite	Cr.Hr.
250101	Calculus (1)	-	3	250102	Calculus (2)	Calculus (1)	3
211101	General Physics (1)	-	3	211102	General Physics(2)	General Physics(1)	3
212101	General Chemistry (1)	-	3	130102	English Language Skills (2)	English Language Skills (1)	3
660131	Manual Engineering Drawing	-	1	114101	Arabic Language Skills (1)	114099	3
130101	English Language Skills (1)	130099	3	212102	General Chemistry Lab (1).	General Chemistry (1)	1
				630263	Programming Language	-	3
				660132	Computer Engineering Drawing	* Manual Engineering Drawing	1
<b>13 : Total Credit Hours</b>				<b>17: Total Credit Hours</b>			

First Semester				Second Semester			
(Second Year)				(Third Year)			
Course No.	Course Title	Prerequisite	Cr.Hr.	Course No.	Course Title	Prerequisite	Cr.Hr.
250202	Calculus (3)	Calculus (2)	3	610212	Electrical Circuits (2)	Electrical Circuits (1)	3
610211	Electrical Circuits (1)	General Physics (2)	3	640233	Dynamics and Vibrations	Statics and Strength of Materials + Calculus (2)	3
640234	Statics and Strength of Materials	General Physics (1)	3	640216	Electronics for Mechatronics	Electrical Circuits (1)	3
650260	Engineering Analysis (1)	Calculus (2)	3	640253	Engineering Skills	English Language Skills (2)	3
630211	Logic Circuit	Programming Language	3	630262	Engineering Analysis (2)	Engineering Analysis (1)	3
250205	Linear Algebra, Vector Differentiation, and Vector Integration	Calculus (2)	3	610216	Electrical Circuits Lab.	Electrical Circuits (1)	1
				640221	Programming Lab for Mechatronics	Programming Language	1
<b>18 : Total Credit Hours</b>				<b>17 : Total Credit Hours</b>			

First Semester				Second Semester			
(Third Year)				(Fourth Year)			
Course No.	Course Title	Prerequisite	Cr.Hr.	Course No.	Course Title	Prerequisite	Cr.Hr.
640314	Electrical Machines for Mechatronics	Electrical Circuits (2)	3	640312	Power Electronics and Drives	Electrical Machines for Mechatronics	3
640327	Modeling and Simulation	Dynamics and Vibrations Engineering Analysis (1)	3	640344	Automatic Control Theory	Modeling and Simulation	3
650364	Probability and Random Variables	Engineering Analysis (1)	3	640242	Instruments and Transducers	Electronics for Mechatronics	3
640328	Microprocessors and Microcontrollers	Logic Circuit	3	111100	Military Science	-----	3
620333	Machines Theory	Dynamics and Vibrations	3	640448	Microcontrollers Lab	Microprocessors and Microcontrollers	1
620171	Engineering Workshop (1)	Computer Engineering Drawing	1	640313	Communication for Mechatronics	Electronics for Mechatronics	3
640337	Mechanics and Vibration lab	Dynamics and Vibrations	1	620172	Engineering Workshop (2)	Engineering Workshop (1)	1
<b>17 : Total Credit Hours</b>				<b>17: Total Credit Hours</b>			

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First Semester				(Fourth Year)		Second Semester	
Course No.	Course Title	Prerequisite	Cr.Hr.	Course No	Course Title	Prerequisite	Cr.Hr.
640445	Programmable Logic Controllers	Microprocessors and Microcontrollers	3	640458	Reverse Engineering	Engineering Skills	3
640441	Digital Control	Automatic Control Theory + Microprocessors and Microcontrollers	3	640435	Pneumatic and Hydraulic Systems	Microprocessors and Microcontrollers	3
	<b>Department Elective Course</b>	-	<b>3</b>	<b>640499</b>	<b>Engineering Training</b>	<b>Passing 115 Cr.Hr</b>	<b>3</b>
111101	National Education	-	3	640447	Mechatronics Systems Design	Automatic Control Theory + Power Electronics and Drives	3
	<b>University Elective Course</b>	-	<b>3</b>	640415	Machine and Power Electronics lab	Power Electronics and Drives + Electronics and Transducers Lab	<b>1</b>
640412	Electronics and Transducers Lab	Electrical Circuits Lab + Instruments and Transducers	1		<b>University Elective Course</b>	-	<b>3</b>
640442	Automatic Control Lab	Automatic Control Theory	1	640342	Mechatronics Project	Microprocessors and Microcontrollers	1
<b>17 : Total Credit Hours</b>				<b>17: Total Credit Hours</b>			

Second Semester2				(Fifth Year)		First Semester	
Course No.	Course Title	Prerequisite	Cr.Hr.	Course No	Course Title	Prerequisite	Cr.Hr.
640543	Signals Processing for Mechatronics	Digital Control	3	640542	Robotics and Automation	Dynamics and Vibrations	3
	<b>University Elective Course</b>	-	<b>3</b>	610550	Entrepreneurship	Engineering Skills	<b>3</b>
	<b>Department Elective Course</b>	-	<b>3</b>	640540	Engineering Project (2)	Engineering Project (1)	<b>2</b>
640440	Engineering Project (1)	Passing 100 Hr + Mechatronics Systems Design	1		<b>Department Elective Course</b>	-	<b>3</b>
640541	CAD/CAM Lab	Computer Engineering Drawing	1	640531	Automation and Fluids Control Lab	Pneumatic and Hydraulic Systems	1
640544	Mechatronics Systems Design Lab	Mechatronics Systems Design	1		<b>University Elective Course</b>	-	<b>3</b>
<b>12 : Total Credit Hours</b>				<b>15 : Total Credit Hours</b>			