

# Guidance Plan for Curriculum 2017 in the Department of Mechatronics Engineering

## First Year

First Semester						Second semester					
Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*	Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical					Lecture	Practical	
1701081136 (110102101)	General Physics 1	3	3	–	–	110102102	General Physics 2	3	3	–	110102101
110102103	General Physics Lab 1	1	–	3	110102101*	110101102	Calculus 2	3	3	–	110108101
110108101	Calculus 1	3	3	–	–	1701081137 (110103107)	Basics of General Chemistry	3	3	-	–
110400101	Engineering Workshop	1	0.5	2	–	110103108	Basics of General Chemistry Lab	1	-	3	110103107
110400201	Manual Engineering Drawing	2	1	3	–	110400202	Computer Aided Engineering Drawing	1	–	3	110400201
111405101	University Compulsory (Arabic Language)	3	3	–	Level Test in Arabic Language or 110405098	111404117	University Compulsory (Military Sciences)	3	3	–	–
111405110	University Compulsory (English Language)	3	3	–	Level Test in English Language or 111405099	111404118	University Compulsory (National Education)	3	3	–	–
<b>Total</b>			<b>16</b>			<b>Total</b>			<b>17</b>		

## Second Year

First Semester						Second semester					
Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*	Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical					Lecture	Practical	
110101203	Ordinary Differential Equations 1	3	3	–	110101102	110101201	Calculus 3	3	3	–	110101102
110108112	Computer Programming	3	3	–	Level Test in Computer Skills or 110108099	110406260	Applied Mathematics	3	3	–	110101203
110401214	Engineering Mechanics	3	3	–	110108101 +110102101	110405211	Dynamics and Vibrations	3	3	–	110101203 + 110401214
110409201	Electrical Circuits 1	3	3	–	110101102 + 112102102	110409203	Electrical Circuits 2	3	3	–	110409201
110400203	Ethics and Communication Skills	3	3	–	111405110		University Elective	3	3	–	
<b>Total</b>			<b>15</b>			<b>Total</b>			<b>15</b>		

## Third Year

First Semester						Second semester					
Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*	Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical					Lecture	Practical	
110403242	Statistics and Probabilities	3	3	–	110101102	1704001303	Numerical Analysis	3	3	–	110101203+ 110108112
110405311	Modeling and Simulation	3	3	–	110409201+ 110405211	110403363	Engineering Materials and Manufacturing Technology	2	2	–	110103107 + 110400101
11042330	Strength Of Material Lab	1	–	3	110402212 or 110101214	1704051312 (110402384)	Mechanical Design	2	2	–	110401214
110405331	Automatic Control	3	3	–	110101203	110405322	Digital Logic and Digital Electronics	3	3	–	110406329
110406329	Electronics	3	3	–	110409203	110405323	Electrical Machines	3	3	–	110409203
110409300	Electrical Circuits Lab.	1	–	3	110102103 + (110406229 or 110409203)		University Elective	3	3	–	
	University Elective	3	3	–							
<b>Total</b>			<b>17</b>			<b>Total</b>			<b>16</b>		

## Fourth Year

First Semester						Second semester					
Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*	Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical					Lecture	Practical	
110405411	Theory Of Mechanisms and Machinery	2	2	-	110405211	110405426	Digital Signals	3	3	-	110406260
110405422	Motor Drive Systems	3	3	-	110406329 + 110405323	110405423	Electrical Machines and Drive Lab.	1	-	3	110405422
110405424	Microprocessors and Microcontrollers	3	3	-	110405322	110405425	Microprocessors and Microcontrollers Lab.	1	-	3	110405424
110405431	Transducers and Interfacing	3	3	-	110406329	110405432	Control and Transducers Lab.	1	-	3	110405331 + 110405431
110405421	Logic and Electronics Lab.	1	-	3	1110405322	110405442	Robotics	3	3	-	110405331 + 110406260
	University Elective	3	3	-		110405441	Automation	2	2	-	110405331
							Specialty Elective	3	3	-	
							University Elective	3	3	-	
<b>Total</b>			15						17		

### Summer Semester After The Fourth Year

Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical	
150405451 (110405451)	Practical training	3	-	3	The student should pass at least 112 credit hours from the curriculum before starting the practical training and curriculum including 110400203
<b>Total</b>					

## Fifth Year

First Semester						Second semester					
Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*	Course Number	Course Title	Credit Hours	Weekly Credit Hours		Prerequisite or Corequisite*
			Lecture	Practical					Lecture	Practical	
110405541	Process Control Lab.	1	–	3	110405441	110405532	Artificial Intelligence	3	3	–	110405331
110405542	Design of Mechatronics Systems	3	3	–	110405331 + 110405323 + 110405431	110405511	Hydraulic and Pneumatic Systems	3	3	–	110405331
110405531	Advanced Control	3	3	–	110405331 + (110405426 or + 110409325)	110405543	Mechatronics Systems Lab.	1	–	3	110405442 + 110405542
110405551	Graduation Project 1	1	–	3	The student should pass at least 120 credit hours from the curriculum including 110400203 + 110405331 + 110405323 + 110405431	110405552	Graduation Project 2	2	–	6	110405551
	Specialty Requirement	3	3	–			Specialty Elective	3	3	–	
	Specialty Elective	3	3	–			Free Course	3	3	–	
<b>Total</b>			<b>14</b>			<b>Total</b>			<b>15</b>		