

**Program of Study for Mechatronics Engineering (2018)**

<b>FIRST YEAR</b>						
<i>FIRST SEMESTER</i>						
<b>Code</b>	<b>Course</b>	<b>Lab. Unit s</b>	<b>No. of Lab. Hour s</b>	<b>Lect. Unit s</b>	<b>No. of Lect. Hour s</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
COE 102	Calculus 1			3	3	None
COE 103	Chemistry for Engineers			3	3	None
COE 103L	Chemistry for Engineers Laboratory	1	3			None
TCW 101	The Contemporary World			3	3	None
MMW 101	Mathematics in the Modern World			3	3	None
UTS 101	Understanding the Self			3	3	None
MEE 102	Mechatronics Orientation			2	2	None
MEE 103	Engineering Drawing	1	3			None
MEE 104L	Computer Programming	1	3			None
PE 10	PE			2	2	None
NSTP 10	NSTP			2	2	None
	Total	3	9	21	21	
<i>SECOND SEMESTER</i>						
<b>Code</b>	<b>Course</b>	<b>Lab. Unit s</b>	<b>No. of Lab. Hour s</b>	<b>Lect. Unit s</b>	<b>No. of Lect. Hour s</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
COE 104	Calculus 2			3	3	[P-COE 101, P-MMW 101]
COE 105	Physics for Engineers Lecture			3	3	[P-COE 101, P-MMW 101]
COE 105L	Physics for Engineers Laboratory	1	3			[C-COE 105]
PCM 101	Purposive Communication			3	3	None
RPH 101	Readings in Philippine History			3	3	None
AAP 101	Art Appreciation			3	3	None
STS 101	Science, Technology and Society			3	3	None
MEE 107L	Computer Aided Drafting and Design (2D and 3D)	2	6			[P-MEE 205D]
PE 11	PE			2	2	[P-PE 101]
NSTP 11	NSTP			3	3	[P-NSTP 10]
	Total	3	9	23	23	
<b>SECOND YEAR</b>						
<i>FIRST SEMESTER</i>						
<b>Code</b>	<b>Course</b>	<b>Lab. Unit s</b>	<b>No. of Lab. Hour s</b>	<b>Lect. Unit s</b>	<b>No. of Lect. Hour s</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
COE 201	Differential Equation			3	3	[P-COE 104]

COE 202	Engineering Data Analysis			3	3	[P-COE 102, P-MMW 101]
APH 101d	Reading Visual Arts			3	3	
MEE 201	Electric Circuits Analysis I			3	3	[P-COE 104, P-COE 105/105L]
MEE 201L	Electric Circuits Analysis I Laboratory	1	3			[C-MEE 201]
MEE 202	Electronics I			3	3	[P-COE 104, P-COE 105/105L]
MEE 202L	Electronics I Laboratory	1	3			[C-MEE 202]
MEE 203	Thermodynamics			3	3	[P-COE 104, P-COE 105/105L]
MEE 204	Engineering Mechanics			3	3	[P-COE 104, P-COE 105/105L]
PE 12	PE			2	2	[P-PE 102]
	Total	2	6	23	23	
<b>SECOND SEMESTER</b>						
<b>Code</b>	<b>Course</b>	<b>Lab. Units</b>	<b>No. of Lab. Hours</b>	<b>Lect. Units</b>	<b>No. of Lect. Hours</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
ETH 101	Ethics			3	3	
MST 101d	Living in IT Era			3	3	
MEE 205	Advanced Engineering Mathematics			3	3	[P-COE 201]
MEE 206	Mechanical Processes			1	1	[P-MEE 107L]
MEE 206L	Mechanical Processes Laboratory	1	3			[C-MEE 206]
MEE 207	Electric Circuits Analysis II			3	3	[P-MEE 201/201L]
MEE 207L	Electric Circuits Analysis II Laboratory	1	3			[C-MEE 207]
MEE 208	Electronics II			3	3	[P-MEE 202/202L]
MEE 208L	Electronics II Laboratory	1	3			[C-MEE 208]
MEE 209	Fluid Technology I			2	2	[P-MEE 203]
MEE 209L	Fluid Technology I Laboratory	1	3			[C-MEE 209]
MEE 210	Dynamics of Rigid Bodies			3	3	[P-MEE 204]
PE 13	PE			2	2	[P-PE 103]
	Total	4	12	23	23	
<b>THIRD YEAR</b>						
<b>FIRST SEMESTER</b>						
<b>Code</b>	<b>Course</b>	<b>Lab. Units</b>	<b>No. of Lab. Hours</b>	<b>Lect. Units</b>	<b>No. of Lect. Hours</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
SSP 101d	Entrepreneurial Mind			3	3	
MEE 301	Industrial Electronics			3	3	[P-MEE 208/208L]
MEE 301L	Industrial Electronics Laboratory	1	3			[C-MEE 301]
MEE 302	Electromechanical Energy Conversion			3	3	[P-MEE 207/207L]

MEE 302L	Electromechanical Energy Conversion Laboratory	1	3			[C-MEE 302]
MEE 303D	Machine Design	1	3			[P-MEE 204, P-MEE 206/206L, P-MEE 107L]
MEE 304	Logic Circuit and Switching Theory			2	2	[P-MEE 208/208L]
MEE 304L	Logic Circuit and Switching Theory Laboratory	1	3			[C-MEE 304]
MEE 305	Computer Numerical Control			2	2	[P-MEE 206/206L, P-MEE 107L]
MEE 305L	Computer Numerical Control Laboratory	1	3			[C-MEE 305]
MEE 306	Fluid Technology II			2	2	[P-MEE 209/209L]
MEE 306L	Fluid Technology II Laboratory	1	3			[C-MEE 306]
MEE 307	Mechatronics Standards and Ethics			2	2	[P-MEE 206/206L, P-MEE 207/207L, P-MEE 208/208L, P-MEE 209/209L]
Total		6	18	17	17	
<b>SECOND SEMESTER</b>						
<b>Code</b>	<b>Course</b>	<b>Lab. Units</b>	<b>No. of Lab. Hours</b>	<b>Lect. Units</b>	<b>No. of Lect. Hours</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
MEE 308	Methods of Research			1	1	[P- MEE 301/301L, P- MEE 302/302L P- MEE 303D, P- MEE 304/304L P- MEE 305/305L P- MEE 306/306L P- MEE 307/307L]
MEE 309	Control Systems			2	2	[P-MEE 205, P-MEE 301/301L]
MEE 309L	Control Systems Laboratory	1	3			[C-MEE 309]
MEE 310D	Electric Drives and Control Design	1	3			[P-MEE 301/301L, P-MEE 302/302L, P-MEE 306/306L, P-MEE 304/304L]
MEE 310L	Electric Drives and Control Laboratory	1	3			[C-MEE 310D]
MEE 311L	Programmable Logic Controller	2	6			[P-MEE 301/301L, P-MEE 306/306L, P-MEE 304/304L]
MEE 312	MicroController and MicroProcessor			2	2	[P-MEE 304/304L]
MEE 312L	MicroController and MicroProcessor Laboratory	1	3			[C-MEE 312]
MEE 313	Safety of Mechatronics Systems			2	2	[P-MEE 301/301L, P-MEE 302/302L,

						P- MEE 305/305L, P-MEE 306/306L, P- MEE 304/304L]
MEE 314	Environmental Engineering			3	3	[P-MEE 301/301L, P-MEE 302/302L, P- MEE 305/305L, P-MEE 306/306L, P- MEE 304/304L]
MEE 315	Engineering Economy and Accounting			3	3	[P- COE 202]
MEE 316	Technopreneurship			3	3	[C-MEE 308]
RLW 101	Rizal Life and Works			3	3	None
	Total	6	18	19	19	
<b>SUMMER</b>						
	On-the-Job Training		(250 hours )	5		[P-MEE 308/308L, P-MEE 309/309L, P- MEE 310D/310L, P-MEE 311L, P-MEE 312/312L, P-MEE 313, P-MEE 314, P-MEE 315]
<b>FOURTH YEAR</b>						
<i>FIRST SEMESTER</i>						
<b>Code</b>	<b>Course</b>	<b>Lab. Unit s</b>	<b>No. of Lab. Hour s</b>	<b>Lect. Unit s</b>	<b>No. of Lect. Hour s</b>	<b>Pre-requisite [P], Co-requisite [C]</b>
MEE 401	Engineering Management			2	2	[P-MEE 315]
MEE 402D	Project Study	1	3			[P-MEE 308]
MEE 403D	Artificial Intelligence Design	1	3			[P-MEE 309/309L, P- MEE 104L, MEE 309/309L, P-MEE 310D/310L]
MEE 404L	Advanced Computer Programming	1	3			[P- MEE 104L, MEE 309/309L, P-MEE 310D/310L)
MEE 405L	Database and Network System	1	3			[P- MEE 104L, MEE 309/309L, P-MEE 310D/310L)
MEE 406	Process Instrumentation and Control			3	3	[P-MEE 311L, P-MEE 309/309L]
MEE 406L	Process Instrumentation and Control Laboratory	1	3			[C-MEE 406]
MEE 407	Motion Control Technology			2	2	[P-MEE 310D/310L]
MEE 407L	Motion Control Technology Laboratory	1	3			[C-MEE 407]
MEE 408L	Industrial Data Communication	1	3			[P-MEE 309/309L, P-MEE 311L, P-MEE 312/312L]
MEE 409	Elective 1			3	3	
	Total	7	21	10	10	
<i>SECOND SEMESTER</i>						

Code	Course	Lab. Units	No. of Lab. Hours	Lect. Units	No. of Lect. Hours	Pre-requisite [P], Co-requisite [C]
MEE 410D	Project Study II	1	3			[P-MEE 402D]
MEE 411D	Industrial Robotics and Design	1	3			[P-MEE 404L]
MEE 411L	Industrial Robotics Laboratory	1	3			[C-MEE 411D]
MEE 412	Machine Vision System and Design			1	1	[P-MEE406 P-MEE 408L]
MEE 412L	Machine Vision System Laboratory	1	3			[C-MEE 412]
MEE 413	SCADA and HMI			3	3	[P-MEE 309, P-MEE 311L]
MEE 413L	SCADA and HMI Laboratory	1	3			[C-MEE 413]
MEE 414	Mechatronics Systems Integration and Troubleshooting			1	1	[P-MEE 406/406L, P-MEE 407/407L]
MEE 414L	Mechatronics Systems Integration and Troubleshooting Laboratory	1	3			[C-MEE 414]
MEE 415F	Seminars and Fieldtrips	2	6			[P-MEE 403D, P-MEE 406/406L, P-MEE 407/407L. P-MEE 408/408L]
MEE 416	Elective 2			3	3	
	Total	8	24	8	8	

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