



Degree and Study Plan

College: Engineering
 Program: Mechatronics Engineering
 Cohort: 2018
 Degree: Bachelor of Engineering
 Major: mechatronics Engineering
 Specialization:

Summary of Credits		
1	University Requirements (UR)	6
	<i>General Foundation Program</i>	(0)
	<i>Arabic language</i>	(2)
	<i>Contemporary Omani State and People</i>	(2)
	<i>Oman & Islamic Civilization or Islamic Culture</i>	(2)
2	University Elective (UE)	6
3	College Requirements (CR) (see List B)	32
4	College Elective (CE) (see List C)	3
5	Departmental Requirements (DR) (see List D)	0
6	Departmental Elective (DE) (see List E)	0
7	Major Requirements (AR) (see List F)	80
8	Major Elective (AE) (see List G)	9
9	Specialization Requirements (SR) (see List H)	0
10	Specialization Elective (SE) (see List I)	0
11	Minor Requirement (IR) (see List J)	0
12	Minor Elective (IE) (see List K)	0
Total credits		136

For reference contact: Dr. Mohamed Al-Badi

Ext. 1363

Date 26/10/2020

Dean's Office

Dr. Hassan Al-Badi

Date 26/10/2020

Admission and Registration

Date

Mechatronics Engineering Program
Study Plan for 2018 Cohort (SCHEME I – With One Semester General Foundation Program)

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Fall-18	-	General Foundation Program	-	-	UR
Semester 2 Spring-19	HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2		UR
	CHEM1071	General Chemistry for Engineering	3	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)	CR
	ENGR1501	Introduction to Engineering	1	FPEL (0560 or 0600 or 0601 or 0604)	CR
	ENGR1600	Workshop I	1	FPEL (0560 or 0600 or 0601 or 0604)	CR
	LANC2160	English for Engineering I	3	FPEL (0560 or 0600 or 0601 or 0604)	CR
	MATH2107	Calculus I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)	CR
	Total		14		
Semester 3 Fall -19	ARAB1002	Arabic Language	2		UR
		University Elective	2		UE
	SOCY1005	Contemporary Omani State and	2		UR
	LANC2161	English for Engineering II	3	LANC2160	CR
	MATH2108	Calculus II	3	MATH2107	CR
	PHYS2107	Physics for Engineering I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105), MATH2107*	CR
	Total		16		
Semester 4 Spring-20	MATH4174	Differential Equations for Engrs.	3	MATH2108	CR
	PHYS 2108	Physics for Eng. II	4	PHYS2107	CR
	COMP2002 or ENGR2217	Intr. to Comp. Program. for Eng. or Programming for Engineers	3	FPEL (0560 or 0600 or 0601 or 0602 or 0603 or 0604) and FPCS (0101 or 0102)	CE
	ECCE2016	Circuit Analysis I	3	PHYS2107 or PHYS2101	AR
	MEIE3107	Eng. Drawing & Comp. Graphics	3		AR
	Total		16		
Semester 5 Fall -20	ECCE3016	Circuit Analysis II	3	ECCE2016	AR
	MATH3171	Lin. Alg. & Mult. Calc. for Eng.	3	MATH2108	CR
	MEIE2129	Basic Mechanics	3	PHYS 2107	AR
	MEIE3281	Probability & Statistics for Engineers	3	MATH2107	AR
	ECCE3206	Digital Logic Design	3		AR
	Total		15		
Semester 6 Spring-21	MCTE3230	Properties and Strength of Materials	3	MEIE 2129	AR
	MCTE4185	Signals & Systems for Mechatronics	3	ECCE3016	AR
	MCTE3110	Electronics	4	ECCE2016	AR
	MCTE4230	Thermal Sciences	3	PHYS2108, MATH2108	AR
	MEIE3122	Machine Dynamics	3	MEIE2129	AR
	Total		16		

& OR ENGR 2217-Programming for Engineers

Study Plan for 2018 Cohort: (Scheme I)

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Semester 7 Fall-21	MEIE4102	Machine Design 1	3	MEIE3107, MCTE3230	AR
	MCTE4145	Instrumentation & Measurement	3	MCTE3110	AR
	MCTE3210	Electromechanical Sys. & Actuators	3	ECCE3016	AR
	ECCE4227	Embedded Systems	3	(COMP2002 or ENGR2217) , ECCE3206, MCTE3110	AR
	MCTE4150	Modeling and Simulation	3	MATH4174	AR
	MCTE3240	Engineering System Design	2	MEIE3107	AR
	Total		17		
January -22	ENGR3006	Industrial Training I	0	MCTE3110	CR
	Total		0		
Semester 8 Spring-22	MCTE4210	Power Electronics & Drives	3	MCTE3110, MCTE3210	AR
	MEIE4141	Fluids Mechanics	3	PHYS2108	AR
	MCTE4255	Mechatronics System Design	3	ECCE4227, (MCTE4145 or MCTE4155), MCTE3240 MCTE4450*	
	MCTE4450	Control Systems Engineering	3	(MCTE4150 or MCTE5133), MCTE4185	AR
	MEIE4183	Numerical Methods for Engineers	3	(COMP2002 or ENGR2217) , MATH3171	AR
	Total		15		
Summer-22	ENGR4006	Industrial Training II	0	ENGR3006	CR
	Total		0		
Semester 9 Fall-22	MCTE5191	Project I	2	(MCTE4255 or MCTE5255), PR 1	AR
		University Elective	2		UE
	MCTE5210	Real-time control and interfacing	3	(MCTE4450 or MCTE4250), ECCE4227	AR
	MCTE5142	Robotics	3	MEIE3122	AR
	MCTE51xx	Program Elective 1	3		AE
	Total		13		
Semester 10 Spring- 23	MCTE5291	Project II	3	MCTE5191, MEIE4102	AR
	MCTE51xx	Program Elective 2	3		AE
	ECCE 5004	Engineering Managements & Economics I	3	STAT2103 or MEIE3281	AR
	MCTE51xx	Program Elective 3	3		AE
		University Elective	2		UE
	Total		14		

PR1: Internal regulation [enforced by the MCE Program Note:
MCTE5191 will be available only in each fall semester.

Study Plan for 2018 Cohort: (Scheme I)
Co-Operative Scheme

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Semester 7 Fall-21	MEIE4102	Machine Design 1	3	MEIE3107, MCTE3230	AR
	MCTE4145	Instrumentation & Measurement	3	MCTE3110	AR
	MCTE3210	Electromechanical Sys. & Actuators	3	ECCE3016	AR
	ECCE4227	Embedded Systems	3	(COMP2002 or ENGR2217) , ECCE3206, MCTE3110	AR
	MCTE4150	Modeling and Simulation	3	MATH4174	AR
	MCTE3240	Engineering System Design	2	MEIE3107	AR
	Total		17		
January -22	ENGR3006	Industrial Training I	0	MCTE3110	CR
	Total		0		
Semester 8 Spring-22	MCTE4210	Power Electronics & Drives	3	MCTE3110, MCTE3210	AR
		University Elective	2		UE
	MCTE4255	Mechatronics System Design	3	ECCE4227, (MCTE4145 or MCTE4155), MCTE3240 MCTE4450*	
	MCTE4450	Control Systems Engineering	3	(MCTE4150 or MCTE5133), MCTE4185	AR
		University Elective	2		UE
	Total		13		
Fall 22 Coop-Sem.1	ENGR4006	Industrial Training II	0	ENGR3006	CR
	MCTE5001	Co-op Training I	0	ENGR4006*	AE
Spring 23 Coop-Sem.2	MCTE5002	Co-op Training II	6	MCTE5001	AE
	Total		6		
Semester 9 Fall-23	MCTE5191	Project I	2	(MCTE4255 or MCTE5255), PR	AR
	MCTE5210	Real-time control and interfacing	3	(MCTE4450 or MCTE4250), ECCE4227	AR
	MCTE5142	Robotics	3	MEIE3122	AR
	MEIE4141	Fluids Mechanics	3	PHYS2108	AR
	Total		11		
Semester 10 Spring- 24	MCTE5291	Project II	3	MCTE5191, MEIE4102	AR
	ECCE 5004	Engineering Managements & Economics I	3	STAT2103 or MEIE3281	AR
	MCTE51xx	Program Elective	3		AE
	MEIE4183	Numerical Methods for Engineers	3	(COMP2002 or ENGR2217) , MATH3171	AR
	Total		12		

Study Plan for 2018 Cohort (SCHEME II – With Two Semester General Foundation Program)

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Fall-18	-	General Foundation Program	-	-	UR
Spring-19	-	General Foundation Program	-	-	UR
Semester 3 Fall-19	HIST1010 or ISLM1010	Oman& Islamic Civilization or Islamic Culture	2	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)	UR
	CHEM1071	General Chemistry for Engineering	3		CR
	ENGR1501	Introduction to Engineering	1	FPEL (0560 or 0600 or 0601 or 0604)	CR
	LANC2160	English for Engineering I	3	FPEL (0560 or 0600 or 0601 or 0604)	CR
	ENGR1600	Workshop I	1	FPEL (0560 or 0600 or 0601 or 0604)	CR
	MATH2107	Calculus I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)	CR
	Total		14		
Semester 4 Spring-20	ARAB1002	Arabic Language	2		UR
	SOCY1005	Contemporary Omani State and	2		UR
	LANC2161	English for Engineering II	3	LANC2160	CR
	MATH2108	Calculus II	3	MATH2107	CR
	PHYS2107	Physics for Engineering I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105),	CR
		University Elective	2		UE
	Total		16		
Semester 5 Fall-20	ECCE2016	Circuit Analysis I	3	PHYS2107 or PHYS2101	AR
	MATH4174	Differential Equations for Eng.	3	MATH2108	CR
	COMP2002 or ENGR2217	Intr. to Comp. Program. for Eng. or Programming for Engineers	3	FPEL (0560 or 0600 or 0601 or 0602 or 0603 or 0604) and FPCS (0101 or 0102)	CE
	MEIE3107	Eng. Drawing & Comp. Graphics	3		AR
	MEIE2129	Basic Mechanics	3	PHYS 2107	AR
	ECCE3206	Digital Logic Design	3		AR
	Total		18		
Semester 6 Spring-21	MCTE3110	Electronics	4	ECCE2016	AR
	ECCE3016	Circuit Analysis II	3	ECCE2016	AR
	MCTE3230	Properties and Strength of Materials	3	MEIE 2129	AR
	PHYS 2108	Physics for Eng. II	4	PHYS2107	CR
	MATH3171	Lin. Alg. & Mult. Calc. for Eng.	3	MATH2108	CR
	Total		17		
Summer 21	MEIE3281	Probability & Statistics for	3	MATH2107	
	MCTE4185	Signals & Systems for Mechatronics	3	ECCE3016	AR
	Total		6		

Study Plan for 2018 Cohort: (Scheme II)

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Semester 7 Fall-21	ECCE4227	Embedded Systems	3	(COMP2002 or ENGR2217) ,ECCE3206 and (ECCE3152 or MCTE3110)	AR
	MCTE4145	Instrumentation & Measurement	3	MCTE3110	AR
	MEIE3122	Machine Dynamics	3	MEIE2129, MCTE3230	AR
	MCTE3210	Electromechanical Sys. & Actuators	3	ECCE3016	AR
	MCTE4150	Modeling and Simulation	3	MATH4174	AR
	MCTE3240	Engineering System Design	2	MEIE3107	AR
	Total		17		
January -22	ENGR3006	Industrial Training I	0	MCTE3110	CR
	Total		0		
Semester 8 Spring-22	MCTE4210	Power Electronics & Drives	3	MCTE3110, MCTE3210	AR
	MEIE4183	Numerical Methods for Engineers	3	COMP2002, MATH3171	AR
	MCTE4255	Mechatronics System Design	3	ECCE4227, (MCTE4145 or MCTE4155), MCTE3210	
	MEIE4102	Machine Design 1	3	MEIE3107	AR
	MCTE4450	Control Systems Engineering	3	(MCTE4150 or MCTE5133), MCTE4185	AR
		University Elective	2		UE
	Total		17		
Summer-22	ENGR4006	Industrial Training II	0	ENGR3006	CR
	Total		0		
Semester 9 Fall-22	MCTE5191	Project I	2	(MCTE4255 or MCTE5255) PR1	AR
		University Elective	2		UE
	MCTE5142	Robotics	3	MEIE3122	AR
	MEIE4141	Fluids Mechanics	3	PHYS2108	AR
	MCTE51xx	Program Elective 1	3		AE
	MCTE5210	Real-time control and interfacing	3	(MCTE4450 or MCTE4250), ECCE4227	AR
	Total		16		
Semester 10 Spring - 23	MCTE5291	Project II	3	MCTE5191, MEIE4102	AR
	ECCE 5004	Engineering Managements & Economics I	3	STAT2103 or MEIE3281	AR
	MCTE4230	Thermal Sciences	3	PHYS2108, MATH2108	AR
	MCTE51xx	Program Elective 2	3		AE
	MCTE51xx	Program Elective 3	3		AE
	Total		16		

PR1: Internal regulation [enforced by the MCE program]

Note: ECCE5191 will be available only in each fall semester.

Study Plan for 2018 Cohort: (Scheme II)
Co-Operative Scheme

	Course Code	Course Title	Cr.	Pre-req.	Cat.
Semester 7 Fall-21	ECCE4227	Embedded Systems	3	(COMP2002 or ENGR2217) ,ECCE3206 and (ECCE3152 or MCTE3210)	AR
	MCTE4145	Instrumentation & Measurement	3	MCTE3110	AR
	MEIE3122	Machine Dynamics	3	MEIE2129, MCTE3230	AR
	MCTE3210	Electromechanical Sys. & Actuators	3	ECCE3016	AR
	MCTE4150	Modeling and Simulation	3	MATH4174	AR
	MCTE3240	Engineering System Design	2	MEIE3107	AR
	Total		17		
January -22	ENGR3006	Industrial Training I	0	MCTE3110	CR
	Total		0		
Semester 8 Spring-22	MCTE4210	Power Electronics & Drives	3	MCTE3110, MCTE3210	AR
	MEIE4183	Numerical Methods for Engineers	3	COMP2002, MATH3171	AR
	MCTE4255	Mechatronics System Design	3	ECCE4227, (MCTE4145 or MCTE4155), MCTE3240	
	MEIE4102	Machine Design 1	3	MEIE3107	AR
	MCTE4450	Control Systems Engineering	3	(MCTE4150 or MCTE5133), MCTE4185	AR
		University Elective	2		UE
	Total		17		
Fall 22 Coop-Sem.1	ENGR4006	Industrial Training II	0	ENGR3006	CR
	MCTE5001	Co-op Training I	0	ENGR4006*	AE
Spring 23 Coop-Sem.2	MCTE5002	Co-op Training II	6	MCTE5001	AE
		Total	6		
Semester 9 Fall-23	MCTE5191	Project I	2	(MCTE4255 or MCTE5255) PR1	AR
		University Elective	2		UE
	MCTE5142	Robotics	3	MEIE3122	AR
	MEIE4141	Fluids Mechanics	3	PHYS2108	AR
	MCTE5210	Real-time control and interfacing	3	(MCTE4450 or MCTE4250), ECCE4227	AR
	Total		16		
Semester 10 Spring 24	MCTE5291	Project II	3	MCTE5191, MEIE4102	AR
	ECCE 5004	Engineering Managements & Economics I	3	STAT2103 or MEIE3281	AR
	MCTE4230	Thermal Sciences	3	PHYS2108, MATH2108	AR
	MCTE51xx	Program Elective 2	3		AE
	Total		13		

PR1: Internal regulation [enforced by the MCE program]

Note: ECCE5191 will be available only in each fall semester.

Mechatronics Engineering - Degree Plan for 2018 LIST A^T - UNIVERSITY ELECTIVES (6 Credits)

#	Code	Title	Credits	College/Department	Pre-requisite
1	ARAB1040	Literature and Sociology	2	Arts	
2	ARAB1050	Language and Sociology	2	Arts	
3	ARCH1170	Development Civilization in Oman	2	Arts	
4	ARCH1180	Archaeology and Environment in Oman	2	Arts	
5	ARCH1520	Arch in Ancient Oman	2	Arts	
6	ARCH1525	Arch Style Arab Gulf	2	Arts	
7	ARCH1526	Islamic Arch	2	Arts	
8	ARCH1530	Oman Arch Through Ages	2	Arts	
9	ARCH1531	History of Animals in Oman	2	Arts	
10	ARCH1535	Oman Towns and their Cultural Remains	2	Arts	
11	ARCH1536	The Archaeology and Knowledge of the Arabian Peninsula	2	Arts	
12	ARCH1537	Cult. Development Arab Gulf	2	Arts	
13	ARCH1538	Oral History Cult. Heritage	2	Arts	
14	ARCH1539	The history and ethnography of jewelry and items of personal adornment in Oman	2	Arts	
15	ARCH1540	Natural Culture Heritage Oman	2	Arts	
16	ARCH1541	Oasis Settlements and Vernacular Architecture in Oman	2	Arts	
17	ARCH1550	Development of Arts and Architecture in Oman	2	Arts	
18	ARCH1551	Admin. Arch. Heritage	2	Arts	
19	ARCH5500	Sea Port and Mart. Arch	2	Arts	
20	ARED1001	Contemporary Visual Arts	2	Education	
21	ARED1002	Appreciation of Islamic Arts and Arabic	2	Education	
22	BCOM1950	Varieties of Public and Professional Communication	3	Commerce	
23	BCOM1960	Cross-Cultural Communication	2	Commerce	
24	BIOL1003	Genetics in our Life	2	Science	
25	BIOL1004	Environment Issues	2	Science	
26	CUTM1002	Environmental Education	2	Education	
27	CUTM1003	Principles of Teaching	2	Education	
28	GEOG2021	Man and Natural Environments in Oman	2	Arts	
29	GEOG2031	Urbanization in the Arabian Gulf	2	Arts	
30	GEOG2122	Man and Environment	2	Arts	
31	GEOG2341	Dev. Countries	2	Arts	
32	HIST1030	History of the GCC Countries	2	Arts	
33	HIST1040	Some Aspects of the History of Oman	2	Arts	
34	INFO4100	Children's Literature	2	Arts	
35	ISLM1020	Human Right in Islam	2	Education	
36	ISLM2010	Prophet Biog.	2	Education	
37	ISLM2030	The Miracle of the Holy Quran	2	Education	
38	ISLM2040	Islamic Economy	2	Education	
39	ISLM2060	Family Systems in Islam	2	Education	
40	ISLM2070	Quranic Stories	2	Education	
41	ISLM2080	General Aims	2	Education	

42	ISLM2090	Islamic Ethics	2	Education	
43	ISLM2150	Islam and the Modern World	2	Education	
44	MASS1020	Arts of Media Edit	2	Arts	
45	MASS1030	Public Opinion (UE)	2	Arts	
46	MASS1060	Mass Media and Society	2	Arts	
47	MASS1070	International Comm.	2	Arts	
48	MASS1080	Principles of Public Relations (UE)	2	Arts	
49	NURS1004	First Aid	2	Nursing	
50	NURS1005	Physical & Psychological Child Health	2	Nursing	
51	PHED1000	Physical Fitness	2	Education	
52	PHIL2050	International Meth	2	Arts	
53	PHIL2060	Ethics	2	Arts	
54	PHIL2070	Trends of Contemporary Philosophical Thought	2	Arts	
55	PHIL2213	Science in Arab Through	2	Arts	
56	PSYC1001	Human Behavior	2	Education	
57	PSYC1002	Psych/Human Problems	2	Education	
58	SOCI2151	Medical Sociology	2	Arts	
59	SOCI2361	Introduction to Social Work	2	Arts	
60	THAR1001	Theater Appreciation	2	Arts	
61	THAR1003	Music Appreciation	2	Arts	
62	THAR1012	Play Writing	2	Arts	
63	THAR1013	Oratory/Presentation	2	Arts	
64	THAR1014	Scholastic Theater	2	Arts	
65	THAR1016	Child's Theater	2	Arts	
66	THAR1017	Theater Scenography	2	Arts	
67	TOUR1050	Tourism in Oman	2	Arts	

T: Engineering students must select a humanity or social course (non-scientific & non-linguistic course) from any college as a University Elective. Please also refer to the College of Engineering Regulations.

Mechatronics Engineering - Study Plan for Cohort 2018

LIST B: COLLEGE REQUIREMENTS (32 Credits)

Course Code	Course Title	Credit	Pre-Requisite
CHEM1071	General Chemistry for Engineering	3	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)
ENGR1501	Introduction to Engineering	1	FPEL (0560 or 0600 or 0601 or 0604)
ENGR1600	Workshop I	1	FPEL (0560 or 0600 or 0601 or 0604)
ENGR3006	Industrial Training I	0	ECCE3152
ENGR4006	Industrial Training II	0	ENGR3006
LANC2160	English for Engineering I	3	FPEL (0560 or 0600 or 0601 or 0604)
LANC2161	English for Engineering II	3	LANC2160
MATH2107	Calculus I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)
MATH2108	Calculus II	3	MATH2107
MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	MATH2108+LANC2161
MATH4174	Differential Equations for Engineers	3	MATH2108+LANC2161
PHYS2107	Physics for Engineering I	4	FPEL (0560 or 0600 or 0601 or 0604) and FPMT(0105)
PHYS2108	Physics for Engineering II	4	PHYS2107 OR PHYS2101
Total		32	

Mechatronics Engineering - Degree Plan for Cohort 2018

LIST C: COLLEGE ELECTIVE (3 Credits) @

Course Code	Course Title	Credit	Pre-Requisite
COMP2002	Introduction to Computer Programming for Engineers	3	FPEL (0560 or 0600 or 0601 or 0604) and FPCS (0101)
ENGR2217	Programming for Engineers	3	
Total		3	

@ For the MCE program the course is, COMP2002 OR ENGR 2217.

Department of Electrical and Computer Engineering – Degree Plan for 2018
LIST F: Major Requirements (80 Credits)

Course Code	Course Title	Credit	Pre-Requisite / Co-req. *
ECCE2016	Circuit Analysis I	3	PHYS2107 or PHYS2101
MCTE3110	Electronics	4	ECCE2016
MEIE2129	Basic Mechanics	3	PHYS2107
ECCE3016	Circuit Analysis II	3	ECCE2016
MCTE4145	Instrumentation & Measurement	3	MCTE3110, MEIE3281
MCTE3230	Properties and Strength of Materials	3	MEIE2129
MEIE3107	Eng. Drawing & Comp. Graphics	3	
MEIE3281	Probability & Statistics for Engineers	3	MATH2107
MEIE4102	Machine Design 1	3	MEIE3107
MCTE4185	Signals & Systems for Mechatronics	3	ECCE3016
MCTE3210	Electromechanical Systems & Actuators	3	ECCE3016
ECCE3206	Digital Logic Design	3	
MCTE4210	Power Electronics & Drives	3	MCTE3110, MCTE3210
MEIE4141	Fluids Mechanics	3	PHYS2108
ECCE4227	Embedded Systems	3	(COMP2002 or ENG2217), ECCE3206,
ECCE5004	Engineering Managements & Economics I	3	STAT2103 or MEIE3281
MCTE4150	Modeling & Simulation	3	MATH4174
MEIE4183	Numerical Methods for Engineers	3	(COMP2002 or ENG2217), MATH3171
MEIE3122	Machine Dynamics	3	MEIE2129
MCTE5191	Project I	2	(MCTE4255 or MCTE5255), MEIE4102, PR
MCTE4230	Thermal Sciences	3	PHYS2108, MATH2108
MCTE3240	Engineering System Design	2	MEIE3107
MCTE5210	Real-time control and interfacing	3	(MCTE4450 or MCTE4250), ECCE4227
MCTE4450	Control Systems Engineering	3	(MCTE4150 or MCTE5133), MCTE4185
MCTE4255	Mechatronics System Design	3	ECCE4227, (MCTE4145 or MCTE4155),
MCTE5291	Project II	3	MCTE5191
MCTE5142	Robotics	3	MEIE3122
Total		80	

PR¹: Internal regulation [enforced by the MCE program]

Note: MCTE5191 will be available only in each fall semester.

Mechatronics Engineering – Degree Plan for 2018
List G: MAJOR ELECTIVES (9 CREDITS)

Course Code	Course Title	Credit	Pre-requisite
MCTE5001	Coop Training I	0	ENGR3006, ENGR4006*
MCTE5002	Coop Training II	6	MCTE5001
MCTE5420	Pneumatic and Hydraulic Systems	3	MCTE3210 or MEIE3181 or ECCE4455
ECCE5433	Modern Control Systems	3	MCTE4450 or MCTE4250
ECCE5453	Mobile Robot Control	3	ECCE3206
ECCE4436	Industrial Control Systems	3	MCTE4450 or MCTE4250
ECCE5008	Project Management	3	ECCE 5004
ECCE5223	Advanced Embedded Systems	3	ECCE4227
ECCE5445	Control System Design	3	MCTE4450 or MCTE4250
ECCE5432	Programmable Logic Controllers	3	ECCE3206
ECCE4253	Object Oriented Programming	3	COMP2002
ECCE4255	Applied Programming & Algorithms for Eng.	3	COMP2002
ECCE5443	Optimization Techniques in Eng.	3	MATH3171
MEIE 5101	Engineering Vibration	3	MEIE3121 or MEIE2129
MEIE5131	Legged locomotion of robots and animals		MEIE3122
MEIE 5127	Process Control	3	MEIE4122 or MEIE4171 or MCTE4450
MEIE 5122	Applied Multi-body Dynamics	3	MEIE3121 or MEIE2129
MEIE5146	Renewable Energy	3	MEIE3142 or MEIE3159 or MCTE4230
MEIE5180	Nanotechnology	3	MEIE4161 or MCTE3230
MEIE5182	Fundamentals of Biomechanics	3	(MEIE3102, MEIE3121)
MEIE5288	Innovation and Entrepreneurship	3	MEIE4285 or ECCE 5004
MEIE5106	Pressure Vessel & Piping System Design	3	MEIE4102
MEIE5110	Applied Finite Element Methods	3	MEIE3102 or CIVL3086 or MCTE3230
MEIE5162	Corrosion Engineering	3	MCTE3230

