



College: **ENGINEERING**
Departments: **ELECTRICAL & COMPUTER ENGINEERING**
MECHANICAL & INDUSTRIAL ENGINEERING
Cohort: **2003**
Degree: **B. ENG.**
Major: **MECHATRONICS ENGINEERING**

<u>Summary of Credits:</u>	
University Requirements (UR)	18
Arabic	3
English	6
Contemporary Omani Society	1
Oman & Islamic Civilization or Islamic Culture	2
Free Elective	6
College Requirements (CR)	35
Math	17
Physics	8
Computer Programming	3
Chemistry	3
Introduction to Engineering	2
Workshop	1
Elective	1
Industrial Training	0
Program Requirements (PR)	87
Department Core	48
Track Core	30
Program Elective	9
TOTAL	140

For reference contact: Prof. Bassam A. Jubran Ext. 1324

HoD Date

Dean's Office Date

Registrar's Office Date

College of Engineering
Degree Plan: 2003 Cohort Mechatronics Engineering (Scheme I)

Semester 1 Fall 2003	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
			Intensive English	0				
Total			0					

Semester 2 Spring 2004	HIST1010 ISLM1010	Oman & Islamic Civilization or Islamic Culture	2	2	-	-		UR
	LANC2160	English for Engineering I	3	3	-	-		UR
	CHEM1071	General Chemistry for Engineers	3	3	-	-		CR
	ENGR1500	Introduction to Engineering	2					CR
	ENGR1600	Workshop I	1	-	2	-		CR
	MATH1106	Pre-Calculus Mathematics	4	3	-	2		CR
Total			15					

Semester 3 Fall 2004	ARAB1001	Arabic	3	3	-	-		UR
	SOCI3320	Contemporary Omani Society	1	1	-	-		UR
	LANC2161	English for Engineering II	3	3	-	-	LANC 2160	UR
	MATH2107	Calculus I	4	3	-	2	MATH1106	CR
	PHYS2107	General Physics I	4	3	2	-	MATH2107*	CR
Total			15					

Semester 5 Spring 2005	MATH2108	Calculus II	3	2	-	2	MATH2107	CR
	PHYS 2108	General Physics II	4	3	2	-	PHYS2107	CR
	COMP2002	Intr. to Comp. Program. for Engineers	3	2	-	2		CR
		College Elective*	1		2		ENGR1600	CR
	ECCE2016	Circuit Analysis I	3	2	1	1	PHYS2107	PR
	MEIE3104	Eng. Drawing & Comp. Graphics	3	1	4			PR
Total			17					

Semester 5 Fall 2005	ECCE3016	Circuit Analysis II	3	2	1	1	ECCE2016 + MATH2107	UR
	MATH3171	Lin. Alg. & Mult. Calc. for Engineers	3	2	2		MATH2108	CR
	PNGE2102	Basic Mechanics	3	2		2	PHYS 2107	PR
	MCTE3110	Electronics	4	3	1	1	ECCE2016	PR
	ECCE3206	Digital Logic Design	3	2	1	1		PR
Total			16					

Semester 6 Spring 2006	MATH4174	Differential Equations for Engrs.	3	2		2	MATH2108	CR
	MEIE4281	Probability & Statistics for Engineers	3	2	1	1		PR
	MCTE3230	Properties and Strength of Materials	3	2	1	1	PNGE2102	PR
	MCTE3210	Electromechanical Systems & Actuators	3	2	1	1	ECCE3016	PR
	ECCE4226	Microprocessors	3	2	1	1	ECCE3206	PR
	MEIE3122	Machine Dynamics	3	2	1	1	PNGE2102	PR
Total			18					

* Engineering 1601 Workshop II

MECHATRONICS ENGINEERING PROGRAM

Degree Plan: 2003 Cohorts (Scheme I)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
Semester 7 Fall 2006	MEIE4101	Computer Aided Machine Design	3	2	1	1	MCTE3230	PR
	MCTE4185	Signals & Systems for Mechatronics	3	2	1	1	MATH4174	PR
	MCTE3261	Object Oriented Programming	3	2		2	COMP2002	PR
	MCTE4145	Instrumentation & Measurement	3	2	1	1	MCTE3110	PR
	MCTE4150	Modeling and Simulation	3	2		2		PR
	MCTE4298	Mechatronics Engineering Seminar I	0	1				PR
Total			15					

January 2007	ENGR3006	Industrial Training I	0					CR
	Total		0					

Semester 8 Spring 2007	MCTE4210	Power Electronics & Drives	3	2	1	1	MCTE3110	PR
	MEIE4141	Fluids Mechanics	3	2	1	1	PNGE2102	PR
	MCTE4230	Thermal Sciences	3	2		2		PR
	MCTE4250	Linear Control Systems	3	2	1	1	MATH4174, MCTE4150	PR
	MEIE4183	Numerical Methods for Engineers	3	2	2		COMP2002	PR
Total			15					

Summer 2007	ENGR4006	Industrial Training II	0					CR
	Total		0					

Semester 9 Fall 2007	MCTE5191	Project I	2					PR
		University Elective	3					
	MCTE5142	Robotics	3	2		2	MCTE4250, MEIE3122	PR
	MCTE51xx	Program Elective 1	3	2		2		PR
	MCTE4255	Mechatronics System Design	3	2		2	ECCE4226, MCTE4145, MEIE4101	PR
	MCTE5198	Mechatronics Engineering Seminar II	0	1			MCTE4298	PR
Total			14					

Semester 10 Spring 2008	MCTE5291	Final Year Project II	3					PR
	ECCE 5004	Engineering Managements & Economics I	3	3		-		
	MCTE51xx	Program Elective 2	3	2				PR
	MCTE51xx	Program Elective 3	3	2		2		PR
		University Elective	3	2		2		UR
Total			15					

List of Elective Courses for Mechatronics Engineering Program

Code	Title	Credits	Pre-Requisite
MCTE5145	Selected Topics in Control Systems	3	MCTE4250
MCTE5146	Intelligent Control Systems	3	MCTE4250
MCTE5141	Computer Controlled System Design	3	MCTE4250
MCTE5121	Computer Aided Design	3	MEIE4101, MEIE3104
MCTE5122	Applied Finite Element Methods	3	MEIE4101
MCTE5144	Micro-Electro-Mechanical Systems	3	MCTE3210
MCTE5123	Engineering Vibration	3	MEIE3122
MCTE5140	Microprocessors in Mechanical Systems	3	ECCE4226, MEIE4101
MCTE5143	Mobile Robotics and Vision	3	MCTE5142
MCTE5151	Mechatronics System Diagnostic & Pattern Recognition	3	
MCTE5152	Embedded System Design	3	ECCE4226
MCTE5105	Advance Power Electronics and Drives	3	MCTE4210
MCTE5128	Computer Integrated Manufacturing	3	
MCTE5148	Industrial Control System	3	MCTE4250
MCTE5195	Special Topics in Mechatronics Engineering	3	

MECHATRONICS ENGINEERING PROGRAM

Degree Plan: 2003 Cohorts (Scheme II)

Semester 1 Fall 2003	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
		Intensive English	0					UR
	Total		0					
Semester 2 Spring 04		Intensive English	0					UR
	Total		0					
Semester 3 Fall 2004		University Elective	3					UR
	ARAB1001	Arabic	3	3	-	-		UR
	LANC2160	English for Engineering I	3	3	-	-		UR
	ENGR1500	Introduction to Engineering	2					CR
	ENGR1600	Workshop I	1	-	2	-		CR
	MATH1106	Pre-Calculus Mathematics	4	3	-	2		CR
	Total		16					
Semester 4 Spring 2005	HIST1010 ISLM1010	Oman & Islamic Civilization or Islamic Culture	2	2	-	-		UR
	SOCI3320	Contemporary Omani Society	1	1	-	-		UR
	LANC2161	English for Engineering II	3	3	-	-	LANC 2160	UR
	CHEM1071	General Chemistry for Engineers	3	3	-	-		CR
	MATH2107	Calculus I	4	3	-	2	MATH1106	CR
	PHYS2107	General Physics I	4	3	2	-	MATH2107*	CR
	Total		17					
Summer 2005	MATH2108	Calculus II	3	2	-	2	MATH2107	CR
	ECCE2016	Circuit Analysis I	3	2	1	1	PHYS2107	PR
	Total		6					
Semester 5 Fall 2005	MATH3171	Lin. Alg. & Mult. Calc. for Engineers	3	2	2		MATH2108	CR
	PHYS 2108	General Physics II	4	3	2	-	PHYS2107	CR
	COMP2002	Intr. to Comp. Program. for Engineers	3	2	-	2		CR
		College Elective*	1		2		ENGR1600	CR
	ECCE3016	Circuit Analysis II	3	2	1	1	ECCE2016 + MATH2107	ECCE3016
	PNGE2102	Basic Mechanics	3	2		2	PHYS 2107	PR
	Total		17					
* Engineering 1601 Workshop II								
Semester 6 Spring 2006	MATH4174	Differential Equations for Engrs.	3	2		2	MATH2108	CR
	MCTE3110	Electronics	4	3	1	1	ECCE2016	PR
	MCTE3210	Electromechanical Systems and Actuators	3	2	1	1	ECCE2016	PR
	MCTE3230	Properties and Strength of Materials	3	2	1	1	PNGE2102	PR
	MEIE3104	Eng. Drawing & Comp. Graphics	3	1	4			PR
	Total		16					
Summer 2006	ECCE3206	Digital Logic Design	3	2	2	-		PR
	MEIE3122	Machine Dynamics	3	2	1	1	PNGE2102	PR
	Total		6					

MECHATRONICS ENGINEERING PROGRAM

Degree Plan: 2003 Cohorts (Scheme II)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
Semester 7 Fall 2006	MEIE4281	Probability & Statistics for Engineers	3	2	1	1		PR
	MEIE4101	Computer Aided Machine Design	3	2	1	1	MCTE3230	PR
	ECCE4226	Microprocessors	3	2	1	1	ECCE3206	PR
	MCTE4145	Instrumentation & Measurement	3	2	1	1	MCTE3110	PR
	MCTE3261	Object Oriented Programming	3	2		2	COMP2002	PR
	MCTE4298	Mechatronics Engineering Seminar I	0	1				PR
	Total			15				

January 2007	ENGR3006	Industrial Training I	0					CR
	Total		0					

Semester 8 Spring 2007	MCTE4210	Power Electronics & Drives	3	2	1	1	MCTE3110	PR
	MEIE4141	Fluids Mechanics	3	2	1	1	PNGE2102	PR
	MCTE4185	Signals & Systems for Mechatronics	3	2	1	1	MATH4174	PR
	MCTE4150	Modeling and Simulation	3	2		2		PR
	MEIE4183	Numerical Methods for Engineers	3	2	2		COMP2002	PR
	MCTE4250	Linear Control Systems	3	2	1	1	MATH4174, MCTE4150	PR
Total			18					

Summer 2007	ENGR4006	Industrial Training II	0					CR
	Total		0					

Semester 9 Fall 2007	MCTE5191	Project I	2					PR
	MCTE4230	Thermal Sciences	3	2		2		PR
	MCTE5142	Robotics	3	2		2	MCTE4250, MEIE3122	PR
	MCTE51xx	Program Elective 1	3	2		2		PR
	MCTE4255	Mechatronics System Design	3	2		2	ECCE4226, MCTE4145, MEIE4101	PR
	MCTE5198	Mechatronics Engineering Seminar II	0	1			MCTE4298	PR
Total			14					

Semester 10 Spring 2008	MCTE5291	Final Year Project II	3					PR
	ECCE 5004	Engineering Managements & Economics I	3	3		-		
	MCTE51xx	Program Elective 2	3	2				PR
	MCTE51xx	Program Elective 3	3	2		2		PR
		University Elective	3	2		2		UR
Total			15					

List of Elective Courses for Mechatronics Engineering Program

Code	Title	Credits	Pre-Requisite
MCTE5141	Computer Controlled System Design	3	MCTE4250
MCTE5145	Selected Topics in Control Systems	3	MCTE4250
MCTE5146	Intelligent Control Systems	3	MCTE4250
MCTE5121	Computer Aided Design	3	MEIE4101, MEIE3104
MCTE5122	Applied Finite Element Methods	3	MEIE4101
MCTE5144	Micro-Electro-Mechanical Systems	3	MCTE3210
MCTE5123	Engineering Vibration	3	MEIE3122
MCTE5140	Microprocessors in Mechanical Systems	3	ECCE4226, MEIE4101
MCTE5143	Mobile Robotics and Vision	3	MCTE5142
MCTE5151	Mechatronics System Diagnostic & Pattern Recognition	3	
MCTE5152	Embedded System Design	3	
MCTE5105	Advance Power Electronics and Drives	3	MCTE4210
MCTE5128	Computer Integrated Manufacturing	3	
MCTE5148	Industrial Control System	3	MCTE4250
MCTE5195	Special Topics in Mechatronics Engineering	3	