Degree and Study Plan

College: ENGINEERING
Department: MECHANICAL AND INDUSTRIAL ENGINEERING
Cohorts: 2009
Degree: B. ENG
Major: MECHANICAL ENGINEERING
Specialization:

Summary of Credits:

University Requirements (UR)		**12**
Intensive English	NC+	
English Requirements	6	
Arabic	3	
Contemporary Omani Society	1	
Oman & Islamic Civilization or Islamic Culture	2	
University Electives (UE)		**6**
See List A		
College Requirements (CR)		**34**
See list B		
College Electives (CE)		**1**
See list C		
Departmental Requirements (DR)		**32**
See list D		
Departmental Electives (DE)		**0**
See list E		
Major Requirements (AR)		**43**
See list F		
Major Electives (AE)		**12**
See list G		
Minor Requirements (IR)		**0**
See list H		
Minor Electives (IE)		**0**
See list I		
Specialization Requirements (SR)		**0**
See list J		
Specialization Electives (SE)		**0**
See list K		
TOTAL		**140**

+ Not Credited

For reference contact: HoD Ext. 1352

HoD Date

Dean's Office Date

Admission and Registration Date

Department of Mechanical and Industrial Engineering

Mechanical Engineering Study Plan: 2009 Cohort (Scheme I)

	Course Code	Course Title	Cr.	Pre-req./Co-requisite*	Cat.
Semester 1 Fall		Intensive English	0		UR
	Total		**0**		

Semester 2 Spring	ARAB1001	Arabic	3		UR
	HIST1010/ ISLM1010	Oman & Islamic Civilization / Islamic Culture	2		UR
	LANC2160	English for Engineering I	3		UR
	ENGR1500	Introduction to Engineering	2		CR
	ENGR1600	Workshop I	1		CR
	MATH1106	Pre-Calculus Mathematics	4		CR
	Total		**15**		

Semester 3 Fall	LANC2161	English for Engineering II	3	LANC2160	UR
	SOCI3320	Contemporary Omani Society	1		UR
	CHEM1071	General Chemistry for Engineers	3		CR
	MATH2107	Calculus I	4	MATH1106	CR
	PHYS2107	General Physics I	4	MATH2107*	CR
	Total		**15**		

Semester 4 Spring	COMP2xxx	Computer Programming[a]	3		CR
	MATH2108	Calculus II	3	MATH2107	CR
	PHYS2108	General Physics II	4	PHYS2107	CR
		College Elective[b]	1		CE
	MEIE2102	Statics	3	PHYS2107	AR
	ECCE3015	Electrical Engineering Fundamentals	3	MATH2107, PHYS2108*	DR
	Total		**17**		

Semester 5 Fall	MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	MATH2108	CR
	MEIE3104	Eng. Drawing & Comp. Graphics	3		DR
	MEIE3121	Dynamics	3	MEIE2102	AR
	MEIE3141	Thermodynamics I	3	PHYS2108*	AR
	MEIE3161	Materials Science	3		DR
	Total		**15**		

[a] COMP2xxx Computer Programming (FORTRAN/C++/Visual Basic

[b] ENGR1601 Workshop II

	Course Code	Course Title	Cr.	Pre-req./Co-requisite*	Cat
January	ENGR3006	Industrial Training I	0	ENGR1600, MEIE3104	CR
	Total		**0**		

Semester 6 Spring	MATH4174	Differential Equations for	3	MATH2108	CR
	MEIE3102	Solid Mechanics	3	MEIE2102 or MEIE2129	DR
	MEIE3108	Creative Decisions and Design	3	MEIE3104	AR
	MEIE3122	Machine Dynamics	3	MEIE3121	AR
	MEIE3142	Thermodynamics II	3	MEIE3141or MEIE3152	AR
	MEIE3198	Mechanical Engineering Seminar I	0		AR
			15		

Semester 7 Fall	MEIE4101	Computer Aided Machine Design	3	MEIE3102, MEIE3104	DR
	MEIE4141	Fluid Mechanics	3	PHY2108	AR
	MEIE4181	Instrumentation & Measurement	3	ECCE3015	AR
	MEIE4183	Numerical Methods for Engineers	3	COMP2xxx	DR
	MEIE4192	Computer Applications in ME	2		AR
	MEIE4281	Probability & Statistics for engineers	3	MATH2107	DR
	Total		**17**		

Semester 8 Spring	MEIE4122	Engineering Systems & Control	3	MEIE3121, MATH4174	AR
	MEIE4144	Heat Transfer	3	MEIE4141or MEIE3141 or MEIE4151 or MEIE3152	AR
	MEIE4198	Mechanical Engineering Seminar II	0	MEIE3198	AR
	MEIE4262	Manufacturing Processes	3	MEIE3161	AR
	MEIE4285	Engineering Economics	3	MATH2107	DR
	MEIE5149	Capstone Design	3	MEIE4101	AR
	Total		**15**		

Summer	ENGR4006	Industrial Training II	0	ENGR3006	CR
	Total		**0**		

		University Elective	3		UE
Semester 9 Fall	MEIE4182	Applied Mathematics for Engineers	3	MATH4174	AR
	MEIE4286	Management for Engineers	3		DR
	MEIE 5193	Project I	2	MEIE4101, MEIE4144	AR
	MEIE5xxx	Department Elective 1	3		AE
	MEIE5xxx	Department Elective 2	3		AE
	Total		**17**		

Semester 10 Spring		University Elective	3		UE
	MEIE 5188	Business & Entrepreneurship	2	MEIE4286	DR
	MEIE 5194	Project II	3	MEIE5193	AR
	MEIE5xxx	Department Elective 3	3		AE
	MEIE5xxx	Department Elective 4	3		AE
	Total		**14**		

Department of Mechanical & Industrial Engineering
Mechanical Engineering Study Plan: 2009 Cohort (Scheme II)

	Course Code	Course Title	Cr.	Pre-req./Co-requisite*	Cat.
Semester 1 Fall		Intensive English	0		UR
	Total		**0**		
Semester 2 Spring		Intensive English	0		UR
	Total		**0**		
Semester 3 Fall		University Elective	3		UE
	LANC2160	English for Engineering I	3		UR
	CHEM1071	General Chemistry for Engineers	3		CR
	ENGR1500	Introduction to Engineering	2		CR
	ENGR1600	Workshop I	1		CR
	MATH1106	Pre-Calculus Mathematics	4		CR
	Total		**16**		
Semester 4 Spring	ARAB1001	Arabic	3		UR
	HIST1010/ ISLM1010	Oman & Islamic Civilization / Islamic Culture	2		UR
	LANC2161	English for Engineering II	3	LANC2160	UR
	SOCI3320	Contemporary Omani Society	1		UR
	MATH2107	Calculus I	4	MATH1106	CR
	PHYS2107	General Physics I	4	MATH2107*	CR
	Total		**17**		
Summer	MATH2108	Calculus II	3	MATH2107	CR
	COMP2xxx	Computer Programming [c]	3		CR
	Total		**6**		
Semester 5 Fall	PHYS2108	General Physics II	4	PHYS2107	CR
		College Elective[b]	1		CE
	MEIE2102	Statics	3	PHYS2107	AR
	MEIE3104	Eng. Drawing & Computer Graphics	3		DR
	MEIE3141	Thermodynamics I	3	PHYS2108*	AR
	ECCE3015	Electrical Engineering Fundamentals	3	MATH2107,	DR

[a] Computer Programming (FORTRAN/C++/Visual Basic)
[b] ENGR1601 Workshop II

	Total	**17**

January	ENGR3006	Industrial Training I	0	ENGR1600, MEIE3104	CR
	Total		**0**		

	Course	Course Title	Cr.	Pre-Req./Co-requisite*	Cat.
Semester 6 Spring	MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	MATH2108	CR
	MEIE3102	Solid Mechanics	3	MEIE2102 or MEIE2129	AR
	MEIE3108	Creative Decisions & Design	3	MEIE3104	AR
	MEIE3121	Dynamics	3	MEIE2102	AR
	MEIE3142	Thermodynamics II	3	MEIE3141or MEIE3152	AR
	MEIE3198	Mechanical Engineering Seminar I	0		AR
	Total		**15**		

Summer	MEIE4281	Probability & Statistics for Engineers	3	MATH2107	DR
	MEIE4183	Numerical Methods for Engineers	3	COMP2xxx	DR
	Total		**6**		

Semester 7 Fall	MATH4174	Differential Equations for	3	MATH2108	CR
	MEIE3122	Machine Dynamics	3	MEIE3121	AR
	MEIE3161	Materials Science	3		DR
	MEIE4101	Computer Aided Machine Design	3	MEIE3102, MEIE3104	DR
	MEIE4141	Fluid Mechanics	3	PHYS2108	AR
	MEIE4181	Instrumentation & Measurement	3	ECCE3015	AR
	Total		**18**		

Semester 8 Spring	MEIE4122	Engineering Systems & Control	3	MEIE3121, MATH4174	AR
	MEIE4144	Heat Transfer	3	MEIE4141 or MEIE3141 or MEIE4151 or MEIE3152	AR
	MEIE4192	Computer Applications in ME	2		AR
	MEIE4198	Mechanical Engineering Seminar	0	MEIE3198	AR
	MEIE4262	Manufacturing Processes	3	MEIE3161	AR
	MEIE4285	Engineering Economics	3	MATH2107	DR
	MEIE5149	Capstone Design	3	MEIE4101	AR
	Total		**17**		

Summer	ENGR4006	Industrial Training II	0	ENGR3006	CR
	Total		**0**		

Semester 9 Fall	MEIE4182	Applied Mathematics for Engineers	3	MATH4174	AR
	MEIE4286	Management for Engineers	3		DR
	MEIE 5193	Project I	2	MEIE4101, MEIE4144	AR
	MEIE5xxx	Department Elective 1	3		AE
	MEIE5xxx	Department Elective 2	3		AE
	Total		**14**		

Semester 10 Spring		University Elective	3		UE
	MEIE 5188	Business & Entrepreneurship	2	MEIE4286	DR
	MEIE 5194	Project II	3	MEIE5193	AR
	MEIE5xxx	Department Elective 3	3		AE
	MEIE5xxx	Department Elective 4	3		AE
	Total		**14**		

Last updated: on Feb 15, 2010

Department of Mechanical and Industrial Engineering - Degree Plan for 2009

LIST A^{T} – UNIVERSITY ELECTIVES

Course Code	Course Title	Credits	College
ARAB1110	An Introduction to Linguistics	3	Arts
ARAB1220	Pre-Islamic Literature	3	Arts
ARAB1540	The Natural and Cultural Heritage of Oman	2	Arts
ARAB1551	Administering Archaeological Heritage in Oman	2	Arts
ARCH1120	Principles of Archaeology	3	Arts
ARCH1180	Archaeology and Environment in Oman	2	Arts
GEOG1015	Introduction to Geography	2	Arts
GEOG1110	Physical Geography	3	Arts
GEOG1220	Human Geography	3	Arts
GEOG2031	Urbanization in the Arabian Gulf	2	Arts
GEOG2122	Man and Environment	2	Arts
GEOG2124	Geography of Climate	3	Arts
HIST1024	Introduction to World History	2	Arts
HIST1030	History of the GCC Countries	2	Arts
HIST1040	Some Aspects of the History of Oman	2	Arts
HIST1050	The Arab World and the West	2	Arts
HIST1060	The Spread of Islam in Europe	2	Arts
HIST1070	The Contemporary of the Islamic World	2	Arts
HIST1090	Civilizations of the Arabian Peninsula	2	Arts
HIST1110	History of the Ancient Near Eastern	2	Arts
HIST1320	History of Prophet and Caliphate Era	3	Arts
HIST2210	European History and Civilization in the Middle Ages	3	Arts
INFO1060	Information Science	2	Arts
INFO2210	Information Technology	3	Arts
MASS1030	Public Opinion (UE)	2	Arts
MASS1080	Principles of Public Relations (UE)	2	Arts
MASS2021	Mass Media in Oman	3	Arts
MASS2110	Communication and Development	3	Arts
PHIL1011	An Introduction to Philosophy	3	Arts
PHIL1100	Critical Thinking and Problem Solving	3	Arts
PHIL2060	Ethics	2	Arts
SOCI101	Introduction to Sociology	3	Arts
SOCI1230	Sociology of Populations	3	Arts
SOCI2112	Education System in Oman	3	Arts
SOCI2120	Sociology of Family	3	Arts
SOCI2151	Medical Sociology	2	Arts
SOWK1100	Introduction to Social Work	2	Arts
SOWK1211	Research in Social Work	3	Arts

THAR1003	Music Appreciation	2	Arts
THAR1001	Theater Appreciation	2	Arts
THAR1013	Oratory/Presentation	2	Arts
THAR1012	Play Writing	2	Arts
THAR1016	Child's Theater	2	Arts
TOUR1010	Introduction to Tourism	2	Arts
TOUR1020	Modern Trends in Tourism	3	Arts
TOUR1050	Tourism in Oman	2	Arts
TOUR1060	Introduction to Tourism Guidance	3	Arts
TOUR2160	Tourism and Ecology	3	Arts
ISLM1020	Human Right in Islam	2	Education
ISLM1101	Recitation and Memorization of the Holy Quran 1	1	Education
ISLM1102	Introduction to Islamic Fiqh	3	Education
ISLM2030	The Miracle of the Holy Quran	2	Education
ISLM2031	Islamic Economy	2	Education
ISLM2060	Family Systems in Islam	2	Education
ISLM2090	Islamic Ethics	2	Education
ISPR1106	Interpretation and quranic sciences	3	Education
ISPR1601	Islam and the Modern World	2	Education
ARED1001	Contemporary Visual Arts	2	Education
ARED1002	Appreciation of Islamic Arts and Arabic	2	Education
FOND1101	The Miracle of the Holy Quran	2	Education
FOND2106	Analytical Interpretation	3	Education
TECH1000	Study Skills	2	Education
INFS4100	Children's Literature	2	Commerce
BCOM1950	Varieties of Public and Professional Communication	3	Commerce
BCOM1960	Cross-Cultural Communication	2	Commerce
PHYS2802	Universe Exploring	2	Science
PHYS2901	Astronomy	3	Science
PHYS3901	Universe's Mysteries	3	Science
CUTM1001	Sci & Sci Education	2	Science
ERSC1002	Geological wonders	2	Science
ERSC1003	Int. Env. Geology	2	Science
ERSC1005	Water Resources in Oman	2	Science
ERSC1006	Gemstones	2	Science
SWAE2003	Water in Arid Environment	2	Agriculture
BHSC2025	Behavioral Science I	3	Medicine
NURS1005			
BHSC2029	The Fundamentals of Thinking and Creativity	2	Medicine
AREN4404	Environmental Psychology	3	Engineering

T: Engineering students must select a humanity or social course (non-scientific & non-linguistic course) from any college as a University Elective.

Department of Mechanical and Industrial Engineering

Mechanical Engineering Degree Plan: 2009 Cohort

LIST B: COLLEGE REQUIREMENTS (CR)

Code	Title	Credits	Pre-Requisite / Co-req. *
LANC2160	English for Engineering I	**3**	
LANC2161	English for Engineering II	**3**	LANC2160
ENGR1500	Introduction to Engineering	**2**	
ENGR1600	Workshop I	**1**	
MATH1106	Pre-Calculus Mathematics	**4**	
MATH2107	Calculus I	**4**	MATH1106
MATH2108	Calculus II	**3**	MATH 2107
MATH3171	Linear Algebra & Multivariate Calculus	**3**	MATH2108, LANC2161
MATH4174	Differential Equations for Engineers	**3**	MATH2108, LANC2161
ENGR2216 Or COMP2002	Programming in Fortran or Introduction to Comp. Program.	**3**	
PHYS2107	General Physics I	**4**	MATH2107*
PHYS2108	General Physics II	**4**	PHYS 2107
CHEM1071	General Chemistry for Engineers	**3**	
ENGR3006	Industrial Training I	**0**	CIVL3056
ENGR4006	Industrial Training II	**0**	ENGR3006
Total		**40**	

Department of Mechanical and Industrial Engineering

Mechanical Engineering Degree Plan: 2009 Cohort

LIST C: COLLEGE ELECTIVES (CE)

Code	Title	Credits	Pre-Requisite / Co-req. *
ENGR1601	Workshop II	**1**	
Total		**1**	

Department of Mechanical and Industrial Engineering

Mechanical Engineering Degree Plan: 2009 Cohort

LIST D: DEPARTMENT REQUIREMENTS (DR)

Code	Title	Credits	Pre-Requisite / Co-req. *
MEIE 3104	Eng. Drawing & Comp. Graphics	3	
MEIE 3161	Material Science	3	
MEIE 3102	Solid Mechanics	3	MEIE 2102 or MEIE 2129
MEIE 4101	Computer Aided Machine Design	3	MEIE 3102, 3104
MEIE 4262	Manufacturing Processes	3	MEIE 3161
MEIE 4183	Numerical Methods for Engineers	3	COMP 2xxx, MATH 3171
MEIE 4281	Probability & Statistics for Engineers	3	MATH 2107
MEIE 4285	Engineering Economics	3	MATH 2107
MEIE 4286	Management for Engineers	3	
MEIE 5188	Business & Entrepreneurship	2	MEIE 4286
ECCE 3015	Electrical Engineering Fundamentals	3	PHYS 2107, PHYS2108*
Total		**32**	

Department of Mechanical and Industrial Engineering

Mechanical Engineering Degree Plan: 2009 Cohort

LIST F: MAJOR REQUIRMENTS (AR)

Code	Title	Credits	Pre-Requisite / Co-req. *
MEIE 2102	Statics	**3**	PHYS2107
MEIE 3121	Dynamics	**3**	MEIE 2102
MEIE 3141	Thermodynamics I	**3**	PHYS 2108*
MEIE 3108	Creative Decisions and Design	**3**	MEIE 3104
MEIE 3122	Machine Dynamics	**3**	MEIE 3121
MEIE 3142	Thermodynamics II	**3**	MEIE 3141 or MEIE 3152
MEIE 3198	Mechanical Engineering Seminar I	**0**	
MEIE 4198	Mechanical Engineering Seminar II	**0**	MEIE 3198
MEIE 4141	Fluid Mechanics	**3**	PHYS 2108
MEIE 4181	Instrumentation & Measurements	**3**	ECCE 3015
MEIE 4192	Computer Applications in ME	**2**	
MEIE 4122	Engineering Systems & Control	**3**	MEIE 3121, MATH 4174
MEIE 4144	Heat Transfer	**3**	MEIE 4141 or 3141 or 4151 or 3152
MEIE 5149	Capstone Design	**3**	MEIE 4101
MEIE 4182	Applied Mathematics for Engineers	**3**	MATH 4174
MEIE 5193	Project I	**2**	MEIE 4101, MEIE 4144
MEIE 5194	Project II	**3**	MEIE 5193
Total		**43**	

Department of Mechanical and Industrial Engineering

Mechanical Engineering Degree Plan: 2009 Cohort

LIST G: MAJOR ELECTIVES (AE)

Four Courses- 12 credit hours:**The elective courses will be offered from the following streams, subject to availability.

	Applied Mechanics	Dynamics & Control	Materials & Manufacturing	Thermo-fluids & Processes
1	**MEIE 5101:** Engineering Vibration	**MEIE5121:** Modeling & Simulation of Engineering Systems	**MEIE5161:** Advanced Materials Technology	**MEIE5141:** Solar Energy Systems
2	**MEIE 5102:** Computer Aided Design	**MEIE5124:** Condition Monitoring and Diagnosis	**MEIE5263:** Computer Integrated Manufacturing	**MEIE5143:** Unit Operation I
3	**MEIE 5106:** Pressure Vessel & Piping System Design	**MEIE5126:** Flight Dynamics and Control	**MEIE5264:** CAD/CAM	**MEIE5144:** Unit Operation II
4	**MEIE5110:** Applied Finite Element Analysis	**MEIE5127:** Analysis and Design of Control Systems	**MEIE4201:** Ergonomics and Safety	**MEIE5145:** Design of Thermal Systems
5	**MEIE5190:** Special Topics	**MEIE5190:** Special Topics	**MEIE5190:** Special Topics	**MEIE5190:** Special Topics

** 1) A total of three (3) courses can be taken from other streams.

2) Students can register for elective courses starting from semester eight (8).