



College: **ENGINEERING**
Department: **CIVIL AND ARCHITECTURAL ENGINEERING**
Cohort: **2004**
Degree: **B. ENG.**
Major: **CIVIL ENGINEERING (ENVIRONMENTAL 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
Department Requirements (DR)	87
Department Core	65
Track	13
Electives	9
TOTAL	140

For reference contact: Dr. Mohamed Abdel-Halim (HoD) Ext. 1332

HoD

Date

Dean's Office

Date

Registrar's Office

Date

Department of Civil and Architectural Engineering
Environmental Engineering Degree Plan: 2004 Cohort (Scheme I)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
Semester 1 Fall 2004		University English	0					UR
	Total			0				

Semester 2 Spring 2005	ARAB1001	Arabic	3	3				UR
	HIST1010	Oman & Islamic Civilization or						
	ISLM1010	Islamic Culture	2	2				UR
	LANC2160	English for Engineering I	3	3				UR
	ENGR1500	Introduction to Engineering	2	1		2		CR
	ENGR1600	Workshop I	1		2			CR
	MATH1106	Pre-Calculus Mathematics	4	3		2		CR
Total			15					

Semester 3 Fall 2005	LANC2161	English for Engineering II	3	3			LANC2160	UR
	SOCI3320	Contemporary Omani Society	1	1				UR
	CHEM1071	General Chemistry for Engineers	3	3				CR
	MATH2107	Calculus I	4	3		2	MATH1106	CR
	PHYS2107	General Physics I	4	3	3		MATH2107*	CR
	Total			15				

Semester 4 Spring 2006		College Elective ^a	1		2			CR
	COMP2216	Programming in Fortran	3	2	2			CR
	MATH2108	Calculus II	3	2		2	MATH 2107	CR
	PHYS2108	General Physics II	4	3	3		PHYS 2107	CR
	CIVL3216	Basic Mechanics	4	3		2	PHYS2107	DR
	Total			15				

Semester 5 Fall 2006	MATH3171	Linear Algebra & Multivariate	3	2		2	MATH2108	CR
	CIVL3002	Drawing I	2		2			DR
	CIVL3056	Surveying	3	2	2		MATH2107	DR
	CIVL3086	Mechanics of Materials	3	2		2	CIVL3216	DR
	CIVL3096	Construction Materials	3	2	2			DR
	PETM3006	Engineering Geology	3	2	2			DR
	Total			17				

January 2007	ENGR3006	Industrial Training I	0				CIVL3056	CR
	Total			0				

Semester 6 Spring 2007		University Elective I	3					UR
	MATH4174	Differential Equations for Engineers	3	2		2	MATH2108	CR
	CIVL3036	Structures I	3	2	2		CIVL3086	DR
	CIVL3046	Drawing II	2		2		CIVL3002	DR
	CIVL3106	Geotechnical Engineering I	3	2	2		PETM3006*	DR
	CIVL4046	Fluid Mechanics	3	2	2		CIVL3216	DR
	Total			17				

^a ENGR1601 WORKSHOP II

Department of Civil and Architectural Engineering
Environmental Engineering Degree Plan: 2004 Cohort (Scheme I)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
Semester 7 Fall 2007	CIVL4036	Highway Engineering	3	2	2		CIVL3106	DR
	CIVL4136	Environmental Engineering I	3	2	2		CIVL4046, CHEM1071	DR
	CIVL4146	Hydraulics	3	2		2	CIVL4046	DR
	CIVL4206	Concrete Design	3	2	2		CIVL3036,3046,3096	DR
	CIVL5146	Numerical Methods	3	2	2		COMP2216	DR
	Total			15				
Semester 8 Spring 2008		Department Elective ^a	3					DR
	CIVL3066	Engineering Hydrology	3	2		2	MATH 3171, CIVL4046	DR
	CIVL4016	Structures II	3	2		2	CIVL 3036, MATH 4174	DR
	CIVL5186	Water and Waste Water Manag.	3	2	2		CIVL4136	DR
	CIVL5204	Engineering Economics	3	2		2		DR
Total			15					
Summer 2008	ENGR4006	Industrial Training II	0					CR
	Total			0				
Semester 9 Fall 2008		Department Elective ^a	3					DR
	CIVL4216	Steelwork Design	3	2	2		CIVL3036 & 3046	DR
	CIVL4226	Foundation Engineering	3	2		2	CIVL3106 & 4206	DR
	CIVL5326	Environmental Eng. II	3	2		2	CIVL4136	DR
	CIVL5336	Construction Management	3	3			CIVL5204	DR
	CIVL5998	Project I ^b	2				CIVL4136 & 4206	DR
Total			17					
Semester 10 Spring 2009		University Elective II	3					UR
		Department Elective ^a	3					DR
	CIVL4006	Prob. & Statistics for Engineers	3	2		2		DR
	CIVL5316	Civil Engineering Design Project	3				CIVL5326	DR
	CIVL5999	Project II ^b	2				CIVL5998	DR
Total			14					

^a Department Electives – a student must choose three courses from elective courses offered in semester 8, 9 and 10.

^b Projects I and II: The student must work the project in the Environmental Engineering subject

Department of Civil and Architectural Engineering
Environmental Engineering Degree Plan: 2004 Cohort (Scheme II)

Semester	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
	Semester 1 Fall 2004		University English	0				
Total		0						
Semester 2 Spring 2005		University English	0					UR
	Total		0					
Semester 3 Fall 2005		University Elective	3					UR
	LANC2160	English for Engineering I	3	3				UR
	CHEM1071	General Chemistry for Engineers	3	3				CR
	ENGR1500	Introduction to Engineering	2	1		2		CR
	ENGR1600	Workshop I	1		2			CR
	MATH1106	Pre-Calculus Mathematics	4	3		2		CR
	Total		16					
Semester 4 Spring 2006	ARAB1001	Arabic	3	3				UR
	HIST1010	Oman & Islamic Civilization or						
	ISLM1010	Islamic Culture	2	2				UR
	LANC2161	English for Engineering II	3	3			LANC 2160	UR
	SOCI3320	Contemporary Omani Society	1	1				UR
	MATH2107	Calculus I	4	3		2	MATH1106	CR
	PHYS2107	General Physics I	4	3	3		MATH2107*	CR
Total		17						
Summer 2006	MATH2108	Calculus II	3				MATH2107	CR
	CIVL3216	Basic Mechanics	4	3		2	PHYS2107	DR
	Total		7					
Semester 5 Fall 2006		College Elective ^a	1		2			CR
	MATH3171	Linear Algebra & Multivariate	3	2		2	MATH2108	CR
	PHYS2108	General Physics II	4	3	3		PHYS 2107	CR
	CIVL3002	Drawing I	2		2			DR
	CIVL3056	Surveying	3	2	2		MATH2107	DR
	CIVL3086	Mechanics of Materials	3	2		2	CIVL3216	DR
Total		16						
January 2007	ENGR3006	Industrial Training I	0				CIVL3056	CR
	Total		0					

^a ENGR1601 WORKSHOP II

Department of Civil and Architectural Engineering
Environmental Engineering Degree Plan: 2004 Cohort (Scheme II)

	Course Code	Course Title	Cr.	Lec.	Lab.	Tut.	Pre-req./Co-req.*	Cat.
Semester 6 Spring 2007	COMP2216	Programming in Fortran	3	2	2			CR
	MATH4174	Differential Equations for	3	2		2	MATH2108	CR
	CIVL3036	Structures I	3	2	2		CIVL3086	DR
	CIVL3046	Drawing II	2		2		CIVL3002	DR
	CIVL3096	Construction Materials	3	2	2			DR
	PETM3006	Engineering Geology	3	2	2			DR
Total			17					

Summer 2007	CIVL3106	Geotechnical Engineering I	3	2	2		PETM3006 *	DR
	CIVL4046	Fluid Mechanics	3	2	2		CIVL3216	DR
	Total			6				

Semester 7 Fall 2007	CIVL4036	Highway Engineering	3	2	2		CIVL3106	DR
	CIVL4136	Environmental Engineering I	3	2	2		CIVL4046, CHEM1071	DR
	CIVL4146	Hydraulics	3	2		2	CIVL4046	DR
	CIVL4206	Concrete Design	3	2	2		CIVL3036,3046,3096	DR
	CIVL5146	Numerical Methods	3	2	2		COMP2216	DR
	Total			15				

Semester 8 Spring 2008		Department Elective ^a	3					DR
	CIVL3066	Engineering Hydrology	3	2		2	MATH 3171, CIVL4046	DR
	CIVL4016	Structures II	3	2		2	CIVL3036, MATH4174	DR
	CIVL5186	Water and Waste Water Manag.	3	2	2		CIVL4136	DR
	CIVL5204	Engineering Economics	3	2		2		DR
	Total			15				

Summer 2008	ENGR4006	Industrial Training II	0					CR
	Total			0				

Semester 9 Fall 2008		Department Elective ^a	3					DR
	CIVL4216	Steelwork Design	3	2	2		CIVL3036 & 3046	DR
	CIVL4226	Foundation Engineering	3	2		2	CIVL3106 & 4206	DR
	CIVL5326	Environmental Eng. II	3	2		2	CIVL4136	DR
	CIVL5336	Construction Management	3	3			CIVL5204	DR
	CIVL5998	Project I ^b	2				CIVL4136 & 4206	DR
Total			17					

Semester 10 Spring 2009		University Elective II	3					UR
		Department Elective ^a	3					DR
	CIVL4006	Prob. & Statistics for Engineers	3	2		2		DR
	CIVL5316	Civil Engineering Design Project	3				CIVL5326	DR
	CIVL5999	Project II ^b	2				CIVL5998	DR
	Total			14				

^a Department Electives – a student must choose three courses from elective courses offered in semester 8, 9 and 10.

^b Projects I and II: The student must work the project in the Environmental Engineering subject

Civil Engineering (Environmental Engineering)

Major Program Courses - 13 credit hours

The student must take the major option courses shown next, which will help the student in his work for the Civil Engineering Design Project (CIVL 5316) to be taken in the Environmental Engineering.

Course No.	Course Title	Credits
CIVL 5186	Water & Wastewater Management	3
CIVL 5326	Environmental Engineering II	3

In addition the student must take 7 credit hours of project courses in the Environmental Engineering as shown below.

Course No.	Course Title	Credits
CIVL 5316	Civil Engineering Design Project	3
CIVL 5998	Project I	2
CIVL 5999	Project II	2

Technical Elective Courses - 9 credit hours

The student should select 9 credit hours to be taken from: (1) Civil Engineering (Environmental Engineering) technical electives, as shown next, (2) Civil Engineering technical elective courses related to the area of Environmental Engineering, or (3) Courses offered in the M.Sc. in Civil Engineering (max 3 credits) after approval of advisor.

Course No.	Course Title	Credits
CIVL 5151	Solid Waste Management	3
CIVL 5152	Microbiology for Engineers	3
CIVL 5153	Chemistry for Environmental Engineering	3
CIVL 5254	Environmental Pollution	3
CIVL 5255	Environmental Management Systems	3