

Revised Curriculum of B.Sc. Engineering Honours Degree Programme
Earth Resources Engineering Stream
Department of Earth Resources Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		
					GPA	NGPA	GPA	NGPA	Total
Semester 1									
MA1012	Mathematics	C	3.0	1/1	3.0				
CS1032	Programming Fundamentals	C	2.0	3/1	3.0				
ME1032	Mechanics	C	2.0	3/4	2.0				
MT1022	Properties of Materials	C	2.0	3/4	2.0				
CE1022	Fluid Mechanics	C	2.0	3/4	2.0				
EE1012	Electrical Engineering	C	2.0	3/4	2.0				
EL1012	Language Skill Enhancement I	C	-	3/1	1.0		15.0	0.0	15.0
Total for Semester 1					15.0	0.0	15.0	0.0	15.0
Term A									
EL1022	Language Skill Enhancement II	C	-	6/1	1.0				
MN1012	Engineering in Context	C	2.0	-		1.0			
ER1952	Engineering Design	C	2.0	3/1		1.5			
ER1962	Engineering Skill Development	C	1.0	6/1		1.5			
DE1xx2	Non-Technical Elective I*	E			2.0		1.0	4.0	5.0
					2.0		2.0	0.0	2.0
Total for Term A					3.0	4.0	3.0	4.0	7.0
Semester 2									
MA1022	Methods of Mathematics	C	3.0	1/1	3.0				
EL1062	English Certificate	C	-	3/1		1.0			
ER2642	Environmental Engineering Concepts	C	2.5	3/2	3.0				
MT1812	Engineering Materials	C	1.5	3/2	2.0				
ER1012	Geology	C	2.0	3/1	3.0				
ER2032	Geophysics	C	2.0	-	2.0				
ER1032	Analytical Methods	C	1.5	3/2	2.0		15.0	1.0	16.0
Total for Semester 2					15.0	1.0	15.0	1.0	16.0

Revised Curriculum of B.Sc. Engineering Honours Degree Programme
Earth Resources Engineering Stream
Department of Earth Resources Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		
					GPA	NGPA	GPA	NGPA	Total
Semester 3									
MA2012	Differential Equations	C	2.0	-	2.0				
MA2022	Calculus	C	2.0	-	2.0				
CE1812	Mechanics of Materials	C	2.0	-	2.0				
ER2012	Optical Mineralogy and Petrology	C	2.0	3/1	3.0				
CS2812	Visual Programming	C	1.0	3/1	2.0				
ER2412	Introduction to Oceanography	C	3.0	-	3.0				
CE2062	Surveying I	C	2.0	3/1	3.0				
ME2122	Engineering Drawing & Computer Aided Modelling	C	2.0	3/1	3.0		20.0	0.0	20.0
Total for Semester 3					20.0	0.0	20.0	0.0	20.0
Semester 4									
MA2032	Linear Algebra	C	2.0	-	2.0				
MA3012	Applied Statistics	C	2.0	-	2.0				
ER2022	Mineral and Groundwater Exploration	C	2.0	-	2.0				
CE2142	Surveying II	C	2.0	3/1	3.0				
ER3052	Structural & Field Geology	C	1.0	3/1	2.0				
ER2512	Gemmology	C	2.0	3/1	3.0				
ER2312	Principles of RS and GIS	C	2.0	3/1	3.0				
ER2042	Rock Blasting and Mine Development	C	3.0	-	3.0	0.0	20.0	0.0	20.0
Total for Semester 4					20.0	0.0	20.0	0.0	20.0

Revised Curriculum of B.Sc. Engineering Honours Degree Programme
Earth Resources Engineering Stream
Department of Earth Resources Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		
					GPA	NGPA	GPA	NGPA	Total
Semester 5									
MA3022	Numerical Methods	C	2.0	-	2.0		16.0	0.0	16.0
MN3042	Business Economics and Financial Accounting	C	2.5	3/2	3.0				
MN3052	Industrial Management and Marketing	C	2.5	3/2	3.0				
ER3012	Mineral Engineering I	C	2.0	3/1	3.0				
CE2812	Soil Mechanics	C	2.0	3/1	3.0				
ER3022	Mine Surveying	C	1.5	3/2	2.0		6.0	0.0	6.0
ER3412	Coastal Oceanography	E	2.0	3/1	3.0				
ER3312	Digital Image Processing and Photogrametry	E	2.0	3/1	3.0				
ER3212	Waste Water Treatment	E	2.5	3/2	3.0				
ER3222	Industrial Minerals and Economic Geology	E	2.0	-	2.0				
ER3512	Jewellery Products Development	E	2.0	3/1	3.0				
ER3232	Extraction Metallurgy	E	2.0	-	2.0				
ER3042	Mine Machinery and Design of Mineral Transport Systems	E	3.0	-	3.0				
ER3032	Mining Methods	E	2.0	-	2.0		6.0	0.0	6.0
Total for Semester 5					37.0	0.0	22.0	0.0	22.0
Term B & Semester 6									
ER3992	Industrial Training	C	-	-		6.0	0.0	9.0	9.0
ER3912	Geology Field Camp	C	-	-		1.0			
ER3932	Mineral Exploration Field Visits	C	-	-		1.0			
ER3902	Industrial Visits	C	-	-		1.0			
ER3942	Oceanography Field Studies	O	-	-		1.0	0.0	0.0	0.0
ER3922	Mine Surveying Field Camp	O	-	-		1.0			
Total for Term B & Semester 6					0.0	11.0	0.0	9.0	9.0

Revised Curriculum of B.Sc. Engineering Honours Degree Programme
Earth Resources Engineering Stream
Department of Earth Resources Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		
					GPA	NGPA	GPA	NGPA	Total
Semester 7									
MN4042	Technology Management	C	1.5	3/2	2.0		11.0	0.0	11.0
ER4202	Research Project**	C			1.0				
ER4032	Engineering Geology	C	2.0	-	2.0				
ER4012	Rock Mechanics	C	2.5	3/2	3.0				
ER4052	Petroleum Engineering	C	3.0	-	3.0				
ER4312	GIS and Spatial Statistics	E	2.0	3/1	3.0		9.0	0.0	9.0
ER4412	Marine Mineral Resources	E	2.0	-	2.0				
ER4212	Contaminated Site Remediation	E	2.5	3/2	3.0				
ER4512	Jewellery Production Technology	E	2.0	3/1	3.0				
ER4042	Mineral Engineering II	E	3.0	-	3.0				
ER4022	Mine Ventilation	E	2.0	3/1	3.0				
ER4522	Fashioning of Gemstones	E	1.0	3/1	2.0				
Total for Semester 7					30.0	0.0	20.0	0.0	20.0
Term C									
DE3xx2	Non-Technical Elective II*	E			2.0		2.0	0.0	2.0
ER4122	Design Project***	C			1.0		1.0	0.0	1.0
Total for Term C					3.0	0.0	3.0	0.0	3.0

Revised Curriculum of B.Sc. Engineering Honours Degree Programme
Earth Resources Engineering Stream
Department of Earth Resources Engineering

Module Code	Module Name	Category	Lectures hrs/week	Lab/ Assignments hrs/weeks	Credits		Norm		
					GPA	NGPA	GPA	NGPA	Total
Semester 8									
ER4062	Hydrogeology	C	2.0	-	2.0		10.0	0.0	10.0
ER4072	Mineral Economics	C	2.0	-	2.0				
ER4202	Research Project**	C			4.0				
ER4122	Design Project***	C			2.0				
ER4422	Marine Exploration Geophysics and Offshore Mining	E	2.0	3/1	3.0		8.0	0.0	8.0
ER4242	Petroleum Processing	E	2.0	-	2.0				
ER4092	Plant Performance	E	2.0	-	2.0				
ER4322	Space Technology and Navigation Systems	E	1.5	3/2	2.0				
ER4222	Construction Engineering Practice	E	3.0	-	3.0				
ER4232	Management Aspects of Ground Water Resources	E	3.0	-	2.0				
ER4532	Jewellery Production Management	E	2.0	3/1	3.0				
ER4082	Mine Planning and Design	E	2.0	3/1	3.0				
ER4102	Mine Safety and Legislation	E	2.0	-	2.0				
ER4432	Marine Survey	E	2.0	3/2	2.5				
ER4112	Natural Disaster Prevention, Mitigation and Preparedness	E	2.0	-	2.0				
MA4022	Operational Research	O	3.0	-	3.0		0.0	0.0	0.0
MA4012	Linear Models and Multivariate Statistics	O	3.0	-	3.0				
MN4072	Small Business Management and Entrepreneurship	O	1.5	3/2	2.0				
Total for Semester 8					44.5	0.0	18.0	0.0	18.0
Total for the Programme					184.5	15.0	136.0	14.0	150.0

* - Weekly load of lectures and lab/Assignment hrs vary among different Non-technical modules.

** - A total of 5 credits for Research Project over Semester 7 and Semester 8.

*** - A total of 3 credits for Design Project over Term C and Semester 8.

Effective for 2009 Intake onwards