



Degree and Study Plan

College: Science
 Department: Earth Sciences
 Cohorts: 2016-2017
 Degree: Bachelor of Science
 Major: Geophysics
 Specialization:

Summary of Credits:	
University Requirements	6
(UR) Foundation Program	NC ⁺
Arabic	3
Contemporary Omani Society	1
Oman & Islamic Civilization or Islamic Culture	2
University Electives (UE)	6
See List A	
College Requirements (CR)	3
See list B	
College Electives (CE)	16
See list C	
Departmental Requirements (DR)	19
See list D	
Departmental Electives (DE)	6
See list E	
Major Requirements (AR)	43
See list F	
Major Electives (AE)	23
See list G	
Specialization Requirements (SR)	
See list H	
Specialization Electives (SE)	
See list I	
Minor Requirements (IR)	++
See list J	
Minor Electives (IE)	++
See list K	
TOTAL	122

+ Not credited

++ Minor is optional: minimum total credits to earn a Minor are 18.
 Courses counting towards an approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (lists C, D, E, F) may count towards a Minor.

For reference contact: Dr. Iftikhar Ahmed Ext. 6839 HoD: Prof.

Osman Abdalla

Date 14 / 10 / 2023

Dean's Office: Dr. Talal Al Hosni

Date 12 / 11 / 2023

Admission and Registration:

Date



Department of Earth Sciences - Geophysics Study Plan for Cohorts 2016-2017

University Requirements (UR)	6
University Electives (UE)	6
College Requirements (CR)	3
College Electives (CE)	16
Departmental Requirements (DR)	19
Departmental Electives (DE)	6
Major Requirement (AR)	43
Major Electives (AE)	23
TOTAL (Credit Hours)	122

	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 1 Fall	ARAB1001	Arabic	3		UR
	SOCY1001	Oman Contemporary Society	1		UR
	LANC2058	Communication in Science	3	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604	CR
	ERSC2101	Introduction to Geology I	4	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604	CE
	PHYS2101	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109	CE
	Total		15		

Semester 2 Spring	ERSC2102	Introduction to Geology II	4	ERSC2101	DR
	MATH2107	Calculus I	4	(FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604) and (FPMT0105 or FPMT0109)	CE
	COMP2101	Introduction to Computer Science	4	(FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604) and (FPCS0101 or FPCS0102)	CE
	HIST1010 or ISLM1010	Oman & Islamic Civilization or Islamic Culture	2		UR
		University Elective	2		UE
	Total		16		

Semester 3 Fall	MATH2108	Calculus-II	3	MATH2107	AR
	PHYS2102	General Physics-II	4	PHYS2101	AR
	GEOP3041	General Geophysics	3	LANC2058 and ERSC2101 and PHYS2101 and MATH2107	DR
	ERSC3021	Structural Geology	3	LANC2058 and ERSC2102	DR
		Major Elective	3		AE
	Total		16		

Semester 4 Spring	GEOP3042	Principles of Geophysical Well Logging	3	GEOP3041	AR
	ERSC3041	Stratigraphy	3	LANC2058 and ERSC2102	DR
	STAT2101	Introduction to Statistics	4	(FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604) and (FPMT0105 or FPMT0109)	AR
	PHYS3100	Introduction to Computational Physics	2	LANC2058 and PHYS2102 and COMP2101 and MATH2107	AR
		Major Elective	3		AE
	Total		15		

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	Course Code	Course Title	Cr.	Pre-req./Co-req.*	Cat.
Semester 5 Fall	GEOP4001	Applied Geophysics I: Seismic Exploration Methods	3	GEOP3041 and PHYS3100	AR
	GEOP4003	Gravity & Magnetic Exploration Methods	3	GEOP3041	AR
	ERSC4040	Geological Interpretation of Well-logs	3	ERSC3041	DR
	MATH3171	Linear Algebra & Multivariate Calculus	3	LANC2058 and MATH2108	AR
	PHYS3103	Physics-III	3	LANC2058 and MATH2107 and PHYS2102	AR
	Total		15		

Semester 6 Spring	GEOP4002	Applied Geophysics II: Electrical & Electromagnetic Exploration	3	GEOP3041 and PHYS3103	AR
	GEOP5013	Field Geophysics	3	GEOP4001 and GEOP4002* and GEOP4003	AR
	MATH3302	Differential Equations	3	LANC2058 and MATH2108	AR
		Major Elective	2		AE
		University Elective	2		UE
		University Elective	2		UE
	Total		15		

Semester 7 Fall	GEOP4010	Fundamentals of Signal Processing	3	GEOP4001 and (MATH3171 or MATH3302)	AR
		Major Elective	3		AE
		Major Elective	3		AE
		Major Elective	3		AE
		Department Elective	3		DE
	Total		15		

Semester 8 Spring	GEOP4011	Geophysical Data Processing	3	GEOP4010 and MATH3171	AR
	ERSC3031	Geology of Oman	3	LANC2058 and ERSC3041	DR
		Major Elective	3		AE
		Major Elective	3		AE
		Department Elective	3		DE
	Total		15		

Department of Earth Sciences - Geophysics Study Plan for Cohorts 2016-2017

Degree Plan : 122 credits			
Course code	Cr	Course Title	Prerequisites (Co-requisites)
University Requirements: 6 Credits			
ARAB 1001	3	Arabic	
HIST1010 or ISLM1010	2	Oman & Islamic Civilization or Islamic Culture	
SOCY1001	1	Oman Contemporary Society	

LIST A: University Electives (6 credits)

See SQU Deanship of Admission and Registration website for the list of University Electives

LIST B: COLLEGE REQUIRMENTS (3 credits)

Code	Title	Cr	Pre-Requisite / Co-req. *
LANC 2058 [†]	Communication in Science	3	FPEL 0560 or FPEL0600 or FPEL0603 or FPEL0604
Total		3	

[†]LANC2058 is a pre-requisite for all 3,000 level College of Science courses.

LIST C: COLLEGE ELECTIVES (16 credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
BIOL2101	General Biology I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604
CHEM2101	General Chemistry I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
ERSC2101 [†]	Introduction to Geology I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604
COMP2101	Introduction to Computer Science	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604) and (FPCS0101 or PCS0102)
MATH2107 [†]	Calculus I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
PHYS2101 [†]	General Physics I	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
STAT2101 [‡]	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
Total		16	

[†] ERSC2101, PHYS2101, and MATH2107 are key pre-requisite courses for Geophysics major.

[‡] STAT2101 is a major requirement (List F)

Credits taken in excess of 16 can be counted as Major Electives (List G)

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LIST D: DEPARTMENTAL REQUIREMENTS (19 credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
ERSC2102	Introduction to Geology II	4	ERSC2101
ERSC3021	Structural Geology	3	ERSC2102 and LANC2058
ERSC3031	Geology of Oman	3	ERSC3041 and LANC2058
ERSC3041	Stratigraphy	3	ERSC2102 and LANC2058
ERSC4040	Geological Interpretation of Well-logs	3	ERSC3041
GEOP3041	General Geophysics	3	ERSC2101 and PHYS2101 and MATH2107 and LANC2058
Total		19	

LIST E: DEPARTMENTAL ELECTIVES (6 credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
ERSC2112	Historical Geology	3	ERSC2101
ERSC3002	Environmental Site Assessment and Remediation	3	LANC2058 and ERSC2102 and ERSC3000
ERSC3071	GIS and Geo-Spatial Applications	3	ERSC2102 and LANC2058
ERSC3210	Palaeontology II	3	LANC2058 and ERSC2211
ERSC4032	Environmental Geochemistry	3	ERSC2101 and CHEM2101
ERSC4321	Structural Geology II	3	ERSC3021
ERSC5011	Basin Analysis	3	ERSC3021 and ERSC4311
ERSC5031	Tectonics	3	ERSC3021
ERSC5061	Exploration Geophysics	3	GEOP3041
ERSC5071	Image Processing and GIS	3	ERSC3061
ERSC5111	Microfacies	3	ERSC3901
ERSC5900	Advanced Diagenesis and Sedimentary Geochemistry	3	ERSC3901
GEOP5021	Engineering and Environmental Geophysics	3	GEOP3041
GEOP5060	Interpretation of Seismic Reflection Data	3	ERSC3041 and GEOP3041
GEOP5501	Geophysics Project I	3	(GEOP4001 or GEOP4002 or GEOP4003) and GEOP5013*
GEOP5502	Geophysics Project II	3	GEOP5501*
Total		6	

Credits taken in excess of 6 can be counted as Major Electives (List G)

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LIST F: MAJOR REQUIREMENTS (43 credits)

Code	Title	Credits	Pre-Requisite / Co-req. *
GEOP3042	Principles of Geophysical Well Logging	3	GEOP3041
GEOP4001	Applied Geophysics I: Seismic Methods	3	GEOP3041 and PHYS3100
GEOP4002	Applied Geophysics II: Electrical/Electromagnetic	3	GEOP3041 and PHYS3103
GEOP4003	Gravity & Magnetic Exploration Methods	3	GEOP3041
GEOP4010	Fundamentals of Signal Processing	3	GEOP4001 and (MATH3171 or MATH3302)
GEOP4011	Geophysical Data Processing	3	GEOP4010 and MATH3171
GEOP5013	Field Geophysics	3	GEOP4001 and GEOP4002* and GEOP4003
MATH2108	Calculus II	3	MATH2107
MATH3171	Linear Algebra & Multivariate Calculus for Engineers	3	MATH2108
MATH3302	Ordinary Differential Equations	3	MATH2108
PHYS2102	General Physics II	4	PHYS 2101
PHYS3100	Introduction to Computational Physics	2	LANC2058 and PHYS 2102 and COMP2101 and MATH2107
PHYS3103	Physics III	3	LANC2058 and MATH2107 and PHYS2102
STAT2101	Introduction to Statistics	4	FPEL0560 or FPEL0600 or FPEL0603 or FPEL0604 and FPMT0105 or FPMT0109
Total		43	

LIST G. MAJOR ELECTIVES (AR) (21 Credits)

“All College of Science courses not used for required courses (Lists A, B, C, D, E, F, H and I) can be taken as major electives”.

Refer Major Electives page on the College Website:

<https://www.squ.edu.om/science/Academic-Programs/Undergraduate-Programs/Major-Electives>

MINORS AVAILABLE TO Earth Science MAJORS

LISTS J and K: MINOR REQUIREMENTS and ELECTIVES (18 Credits)

Refer to Minor page on the College Website to see the available minors and their requirements:

<https://www.squ.edu.om/science/Academic-Programs/Undergraduate-Programs>

* Students are required to complete 18 Credits in the minor courses to qualify for a minor.

* Courses counting towards an approved Minor may substitute courses listed as Major Electives (List G) but no more than 8 credits counting towards the Major degree (lists C, D, E, F) may count towards a Minor.

* Students should take a minor different than their major.

For reference contact:

Dr. Iftikhar Ahmed

Ext. 6839

Approved by Dean of Science:

Dr. Talal Al-Hosni

Date: 12 / 11 / 2023

Office of Admissions & Registration:

Confirmed:

