

GEOLO TRACKS

APPLIED GEOLOGY TRACK

All students must satisfy 120 credit hours

1. COMMON REQUIREMENTS

36 Credit hours

1.1 University General Requirements

27 Credit hours

1.2 College Compulsory Requirements

9 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
ITBP 103	Principles of IT	1 & 2	-	3
MATH 105	Calculus 1	1 & 2	-	3
PHYS 1052	General Physics 1	1 & 2	-	3

2. MAJOR SPECIALIZATION AND SUPPORTING COURSES REQUIREMENT

2.1 Major Specialization Requirements (Applied Geology Track)

45 Credit hours

All Geology major students in the Department must take 25 credit hours of departmental compulsory courses as given in the following table.

2.1.1. Departmental Compulsory Courses

25 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
GEOA 105	Physical Geology	1 & 2	-	3
GEOA 290	Structural Geology & Tectonics	1 & 2	GEOA 105	4
GEOA 320	Mineralogy	1 & 2	GEOA 105+PHYS 105+CHEM 111	4
GEOA 325	Sedimentology & Stratigraphy	1 & 2	GEOA 320	4
GEOA 372	Geophysics	1 & 2	GEOA 290+PHYS 105+MATH 105	3
GEOA 458	Geology of the UAE	1 & 2	GEOA 325+GEOA 290	3
GEOA 499	Field Geology	1 & 2	GEOA 458	4

2.1.2. Track Compulsory Courses

17 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
GEOA 245	Paleontology	1 & 2	GEOA 105	4
GEOA 322	Igneous & Metamorphic Petrology	1 & 2	GEOA 320	4
GEOA 412	Remote Sensing and GIS	2	GEOA 290+MATH 105+PHYS 105	3
GEOA 358	Hydrogeology	1 & 2	GEOA 325+PHYS 105+MATH 105+CHEM 111	3
GEOA 461	Geochemistry	1	GEOA 325+GEOA 322+CHEM 111	3

2.1.3. Track Elective Courses

3 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
GEOA 490	Mineral Exploration	2	GEOA 461+GEOA 372+GEOA 458	3
GEOA 414	Environmental Geology	2	GEOA 330	3
GEOA 452	Economic Geology	1	GEOA 322	3
GEOA 462	Hydrogeochemistry	2	GEPW 358	3
GEOA 495	Selected Topics	1 & 2	GEOA 372+GEOA 290+GEOA 330	3
GEOA 453	Petroleum and Subsurface Geology	1	GEOA 325+PHYS 110+MATH 105	3

2.2. Supporting Requirements

33 Credit hours

2.2.1. Compulsory Courses

15 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
CHEM 111	General Chemistry I	1 & 2	-	3
CHEM 112	General Chemistry II	1 & 2	CHEM 111	2
CHEM 115	General Chemistry Lab.	1 & 2	CHEM 112	1
BIOC 100	Basic Biology I	1 & 2	-	3
MATH 110	Calculus II	1 & 2	MATH 105	3
PHYS 110	General Physics II	1 & 2	PHYS 105	3

2.2.2. Elective Courses

18 Credit hours

The student may take 18 Credit hours from the following courses with STAT 210 and BIOC 452 as a mandatory course. Otherwise, and upon the approval of the Department, the students select a total of 18 Credit hours from one of the approved concentrations.

Course No.	Course Title	Semester	Prerequisite	Cr Hr
STAT 210	Probability and Statistics	1 & 2	MATH 110	3
ENG 310	Writing I	1&2	-	3
BIOC 250	Basic Ecology	1 & 2	BIOC 200	3
CHEM 241	Organic Chemistry I	1 & 2	CHEM 111	3
PSY 342	Educational Psychology*	2	-	3
BIOE 452	Oceanography	1	BIOC 205	3
GEO 312	Geomorphology	2	-	3
BIOC 200	Basic Biology II	1 & 2	BIOC 100	3

3. PROFESSIONAL INTERNSHIP PROGRAM

6 Credit hours

Course No.	Course Title	Semester	Prerequisite	Cr Hr
GEOA 500	Internship	1&2	90 CH + GPA $\geq$ 2.00	6

CONCENTRATION IN GEOLO

The Department offers a concentration in Geology for students from other Departments and Colleges (18 Credit hours to be selected from the following list of courses for Non-Geology students).

Course No.	Course Title	Semester	Prerequisite	Cr Hr
GEOA 105	Physical Geology	1 & 2	-	3
GEOA 285	Structural Geology & Tectonics	1 & 2	GEOA 105	4
GEOA 320	Mineralogy	1 & 2	GEOA 105+PHYS 105+CHEM 111	4
GEOA 324	Sedimentology & Stratigraphy	1 & 2	GEOA 320	4
GEOA 372	Geophysics	1 & 2	GEOA 290+PHYS 105+MATH 105	3
GEOA 322	Igneous & Metamorphic	2	GEOA 320	4
GEOA 461	Geochemistry	1	GEOA 325+GEOA 322+CHEM 112	3
GEOA 245	Paleontology	1 & 2	GEOA 105+BIOC 105	4
GEOA 412	Remote Sensing and GIS	2	GEOA 290+MATH 105+PHYS 105	3
GEOA 414	Environmental Geology	2	GEOA 330	3
GEOP 453	Petroleum & Subsurface Geology	1	GEOA 330+PHYS 110+MATH 105	3
GEOA 358	Hydrogeology	1	GEOA330+PHYS105+MATH105+CHEM111	3
GEOP 468	Petroleum Geochemistry	2	GEOA 330+CHEM 111	3
GEOP 463	Geophysical Exploration	2	GEOA 372+ MATH 110+PHYS 110	3
GEOA 462	Hydrogeochemistry	2	GEOA 358	3