

*** Geological Engineering (Dated September 30th, 2015)**

Total credits of the curriculum :	140 credits
- General education knowledge:	28 credits
<i>(Not including physical education, military defense education and soft skills)</i>	
- Basic courses:	6 credits
- Fundamental courses:	22 credits
+ <i>Required:</i>	<i>20 credits</i>
+ <i>Elective:</i>	<i>2/4 credits</i>
- Core courses:	28 credits
+ <i>Required:</i>	<i>25 credits</i>
+ <i>Elective:</i>	<i>3/9 credits</i>
- Advanced courses:	56 credits
+ <i>Required:</i>	<i>32 credits</i>
+ <i>Elective:</i>	<i>15 credits</i>
+ <i>Internship:</i>	<i>2 credits</i>
+ <i>Graduation thesis/Subjects replacing thesis:</i>	<i>7 credits</i>

Available curriculum

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
I		General education knowledge <i>(Not including subject 10 - 12)</i>	28				
1	PHI1004	<i>Fundamental Principles of Maxis-Leninism 1</i>	2	24	6		
2	PHI1005	<i>Fundamental Principles of Maxis-Leninism 2</i>	3	36	9		PHI1004
3	POL1001	<i>Hochiminh Ideology</i>	2	20	10		PHI1005
4	HIS1002	<i>The Revolutionary Line of the Communist Party of Vietnam</i>	3	42	3		POL1001
5	INT1003	<i>Introduction to Informatics 1</i>	2	10	20		
6	INT1005	<i>Introduction to Informatics 3</i>	2	12	18		INT1003
7	FLF2101	<i>General English 1</i>	4	16	40	4	
8	FLF2102	<i>General English 2</i>	5	20	50	5	FLF2101
9	FLF2103	<i>General English 3</i>	5	20	50	5	FLF2102
10		<i>Physical Training</i>	4				
11		<i>National Defence Training</i>	8				
12		<i>Soft Skills</i>	3				
II		Basic courses	6				
13	HIS1056	<i>Fundamentals of Vietnamese Culture</i>	3	42	3		
14	GEO1050	<i>Earth and Life Sciences</i>	3	30	10	5	
III		Fundamental courses	22				
III.1		Required	20				
15	MAT1090	<i>Linear Algebra</i>	3	30	15		
16	MAT1091	<i>Calculus 1</i>	3	30	15		
17	MAT1192	<i>Calculus 2</i>	2	20	10		MAT1091
18	MAT1101	<i>Probability and Statistics</i>	3	27	18		MAT1091
19	PHY1100	<i>Mechanics - Thermodynamics</i>	3	30	15		MAT1091
20	PHY1103	<i>Electromagnetism - Optics</i>	3	30	15		MAT1091

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
21	CHE1080	General chemistry	3	42		3	
III.2		Elective	2/4				
22	PHY1104	General Physics Practice	2		30		PHY1100
23	CHE1069	General chemistry Lab	2		30		CHE1080
IV		Core courses	28				
IV.1		Required	25				
24	GLO2098	English for Geoengineering	3	20	20	5	FLF2103
25	GLO2078	Physical Geology	4	45	10	5	GEO1050
26	GEO2059	GIS and Remote sensing	3	30	10	5	GLO2078
27	GLO2037	Natural Disasters	3	30	10	5	GLO2078
28	GLO2066	Exploring Geology in Field	3		45		GLO2078
29	GLO2074	Introduction to Geophysics	3	30	10	5	GLO2078
30	GLO2086	Techniques of Geological Survey	3	20	20	5	GLO2078
31	GLO2058	Geoinformatic Applications	3	10	30	5	GEO2059
IV.2		Elective	3/9				
32	GEO3221	Geomorphology	3	30	10	5	GEO1050
33	GLO3120	Marine Geology	3	30	10	5	GLO2078
34	GEO2318	Geodesy	3	25	15	5	GEO1050
V		Advanced courses	56				
V.1		Required	32				
35	GLO2014	Mineralogy	3	30	10	5	GLO2078
36	GLO2070	Geochemistry	3	30	10	5	GLO2030
37	GLO2030	Petrology	3	30	10	5	GLO2014
38	GLO2094	Structural Geology	4	35	20	5	GLO2030
39	GLO2087	Introduction to sustainable development	3	30	10	5	GEO1050

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
40	GLO3137	<i>Introduction to Geological Engineering and Hydrological Geology</i>	4	45	10	5	GLO2078
41	GLO3100	Exploring Geo-Engineering in the field	3	10	35		GLO3137
42	GLO3122	<i>Environmental Impact Assessment</i>	3	30	10	5	GLO2078
43	GLO3038	<i>Scientific method in Geoengineering</i>	3	10	30	5	GLO3137
44	GLO2085	<i>Soil Mechanics</i>	3	30	10	5	GLO3137
V.2		<i>Elective</i>	15				
V.2.1		<i>The intensive subjects in Geotechnical</i>	15/30				
45	GLO2095	<i>Quaternary Geology</i>	3	30	10	5	GLO2078
46	GLO3118	<i>Geodynamics Engineering</i>	3	30	10	5	GLO3137
47	GLO3115	<i>Strength of Materials</i>	3	30	10	5	PHY1100
48	GLO3116	<i>Foundation Engineering</i>	3	30	10	5	GLO2085
49	GLO3139	<i>Groundwater Dynamics</i>	3	30	10	5	GLO2078
50	GLO3039	<i>Rock Mechanics</i>	3	30	10	5	GLO2085
51	GLO3040	<i>Structural Mechanics</i>	3	30	10	5	GLO2085
52	GLO3149	<i>Building Materials</i>	3	30	10	5	GLO2078
53	GLO3163	<i>Marine Geotechnology</i>	3	30	10	5	GLO3137
54	GLO3119	<i>Rock transformation technology</i>	3	30	10	5	GLO2078
V.2.2		<i>The intensive subjects in Environmental Geology</i>	15/33				
55	GLO3139	<i>Groundwater Dynamics</i>	3	30	10	5	GLO2078
56	GLO3104	<i>Integrated Coastal Zone Management</i>	3	30	10	5	GLO2087
57	GLO3124	<i>Geochemistry</i>	3	30	10	5	GLO3111
58	GLO3125	<i>Urban Geology</i>	3	30	10	5	GLO3111
59	GLO3077	<i>Environmental analytical chemistry</i>	3	20	20	5	GLO2078 CHE1080
60	GLO3114	<i>Ecological Geology</i>	3	30	10	5	GLO3111

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
61	GLO3078	<i>Environmental Geology of Marine and Coastal Area.</i>	3	30	10	5	GLO3111
62	GLO2095	<i>Quaternary Geology</i>	3	30	10	5	GLO2078
63	GLO3109	<i>Marine geochemistry</i>	3	30	10	5	GLO2078
64	GLO3130	<i>Chemistry of Soil and water</i>	3	30	10	5	GLO2078
65	GLO3111	<i>Environmental Geology</i>	3	30	10	5	GLO2094 GLO3137
V.2.3		<i>The intensive subjects in geology and mineral</i>	15/30				
66	GLO4012	<i>Setting and analysis of an project for mine development</i>	3	30	10	5	GLO3094
67	GLO3111	<i>Environmental Geology</i>	3	30	10	5	GLO2094 GLO3137
68	GLO3152	<i>Drilling techniques</i>	3	20	20	5	GLO2078
69	GLO3076	<i>Mineral Resources in Vietnam</i>	3	30	10	5	GLO2078
70	GLO3094	<i>Mineral Resource Economics</i>	3	30	10	5	GLO3076
71	GLO3154	<i>Vietnam law and policy on Minerals Resources</i>	3	30	10	5	GLO3076
72	GLO3164	<i>Methods for geophysical investigation</i>	3	30	10	5	GLO2074
73	GLO2096	<i>Minerals processing technology</i>	3	30	10	5	GLO3076
74	GLO4009	<i>Methods of minerals and geological exploration</i>	3	30	10	5	
75	GLO3149	<i>Building Materials</i>	3	30	10	5	GLO2078
V.3		Internship	2				
76	GLO4062	<i>Practising</i>	2	2	25	3	
V.4		Graduation thesis/ Subjects replacing thesis	7				
77	GLO4057	<i>Graduation Thesis</i>	7				

No.	Code	Subject	Credits	Credit hours			Prerequisite
				Lecture	Practice	Self-study	
		<i>Subjects replacing thesis</i>	7				
		<i>Required</i>	4				
78	GLO4011	<i>Establishing Projects in Geo-Engineering</i>	4	30	20	10	
		<i>Elective</i>	3/9				
79	GLO3079	<i>Mapping methods for environmental geology and geological hazard</i>	3	15	25	5	GLO3111
80	GLO4063	<i>Mapping methods for Geo-Engineering</i>	3	15	25	5	GLO2086
81	GLO2097	<i>Methods of minerals and geological mapping</i>	3	15	25	5	GLO2086
		Total	140				