

Institute of Engineering, Pulchowk Campus, Kathmandu
Course Structure 2024
MSc in Geo-technical Engineering

Year : I

Part I

Teaching Schedule				Examination Scheme			Total	Remarks
SN	Course Code	Course Title	Credit	Assessment Marks	Final Exam			
					Duration Hours	Marks		
1	ENCEGT501	Advanced Solid Mechanics	4	40	3	60	100	
2	ENCEGT502	Advanced Engineering Geology	4	40	3	60	100	
3	ENCEGT503	Advanced Soil Mechanics	4	40	3	60	100	
4	ENCEGT504	Advanced Rock Mechanics	4	40	3	60	100	
		Total	16	160		240	400	

Year : I

Part II

Teaching Schedule				Examination Scheme			Total	Remarks
S. N.	Course Code	Course Title	Credit	Assessment Marks	Final Exam			
					Duration Hours	Marks		
1	ENCEGT551	Advanced Foundation Engineering	4	40	3	60	100	
2	ENCEGT552	Ground Exploration and Testing	4	40	3	60	100	
3	ENCEGT56X	Elective-I	4	40	3	60	100	
4	ENCEGT57X	Elective-II	4	40	3	60	100	
		Total	16	160		240	400	

Year : II

Part I

Teaching Schedule				Examination Scheme			Total	Remarks
S. N.	Course Code	Course Title	Credit	Assessment Marks	Final Exam			
					Duration Hours	Marks		
1	ENCEGT61X	Elective -III	4	40	3	60	100	
2	ENCEGT62X	Elective -IV	4	40	3	60	100	
3	ENCEGT601	Project	4	100			100	
		Total	12	180		120	300	

Year: II

Part II

Teaching Schedule				Examination Scheme			Total	Remarks
S. N.	Course Code	Course Title	Credit	Assessment Marks	Final Exam			
					Duration Hours	Marks		
1	ENCEGT651	Thesis	16	100			100	

Note: Students will write a thesis in the fourth semester. However, the thesis work must start from the beginning of third semester, which may be associated to the project work. Students can carry out the research thesis with one or more supervisors.

Elective Courses:

Elective courses will be offered as per the availability of resource persons. The lists of electives are as follows:

Elective I:

1. Geo-synthetics [Code: ENCEGT561]
2. Ground Improvement Techniques [Code: ENCEGT562]
3. Seepage Problems in Soil [Code: ENCEGT563]

Elective II:

1. Mountain Risk Engineering [Code: ENCEGT571]
2. Geographical Information System [Code: ENCEGT572]
3. Rock Slope Engineering [Code: ENCEGT573]

Elective III:

1. Earth Dams and Embankments [Code: ENCEGT611]
2. Advanced Numerical Methods [Code: ENCEGT612]
3. Geotechnical Earthquake Engineering [Code: ENCEGT613]

Elective IV:

1. Underground Excavation and Tunneling [Code: ENCEGT621]
2. Soil Mechanics for Unsaturated Soil [Code: ENCEGT622]

Further Explanation about Project and Thesis works

The project and thesis component theme could be one of the following:

- Industrial/organizational problem assessment (mainly done at industry/organization)
- Community based problem assessment (mainly done at community)
- Literature based problem assessment (mainly done at institution)
- Analytical or experimental or prototype based problem assessment (mainly done at institution)
- Case study based problem assessment (mainly done at case specific site)
- Field work based problem assessment (mainly done at specific site)
- Any other relevant and deemed suitable by department
- The project component will be of approximately 3 months (full - time) duration

Eligibility and Degree Award:

Eligibility: **BE in Civil Engineering**

Degree Award: **MSc in Geo-technical Engineering (Civil Engineering)**