

Institute of Engineering, Pulchowk Campus, Lalitpur
MSc in Environmental Engineering (Course Structure 2025)

Year : I

Part I

Teaching Schedule				Examination Scheme			Total	Remarks
SN	Course Code	Course Title	Credit	Assessment Marks	Final Exam			
					Duration Hours	Marks		
1	ENCEEN501	Physical and Chemical Process of Wastewater Treatment: Principles and Design	4	40	3	60	100	
2	ENCEEN502	Water Chemistry and Environmental Microbiology	4	40	3	60	100	
3	ENCEEN503	Integrated Solid Waste Management	4	40	3	60	100	
4	ENCEEN504	Environmental Engineering Laboratory	4	40		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	ENCEEN551	Biological Wastewater Treatment: Principles and Design	4	40	3	60	100	
2	ENCEEN552	Advanced Water Treatment	4	40	3	60	100	
3	ENCEEN56X	Elective-I	4	40	3	60	100	
4	ENCEEN57X	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	ENCEEN61X	Elective-III	4	40	3	60	100	
2	ENCEEN62X	Elective-IV	4	40	3	60	100	
3	ENCEEN601	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	ENCEEN651	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. Air and Noise Pollution Fundamentals [Code: ENCEEN561]
2. Sustainable Environmental and Resource Economics [Code: ENCEEN562]
3. Sustainable Water and Sanitation [Code: ENCEEN563]
4. Environmental Hydraulics [Code: ENCEEN564]

Elective II:

1. Health, Environment and Development [Code: ENCEEN571]
2. Applied Research Methodology [Code: ENCEEN572]
3. Applied Machine Learning in Environmental Engineering [Code: ENCEEN573]
4. Hazardous Waste Management [Code: ENCEEN574]

Elective III:

1. Environmental Impact Assessment [Code: ENCEEN611]
2. Statistics for Environmental Engineers [Code: ENCEEN612]
3. Environmental Biotechnology [Code: ENCEEN613]
4. Ecotoxicology and Risk Assessment [Code: ENCEEN614]

Elective IV:

1. Biodegradation and Bioremediation [Code: ENCEEN621]
2. Industrial Water Pollution Control [Code: ENCEEN622]
3. Contaminant Fate, Transport and Modeling [Code: ENCEEN623]
4. Environmental Modeling for Air and Water Quality [Code: ENCEEN624]

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:

Intake Eligibility: BE in Civil Engineering.

Degree Award: MSc in Environmental Engineering (Civil Engineering)