

National Institute of Technology Meghalaya

An Institute of National Importance

CURRICULUM

An Institute of National Importance																
Pro	gramme	e Master of Technology							Year of Regulation				2025			
Dep	oartmen	nt Civil Engineering									Semes	ster	I			1
Course			Course Name		Pre r	equisite		Credit S	Structure			Marks Di		<u>n</u>		
Code							L		P	С	INT	MID	END	Total		
CE 577		Soil and Environmental Chemistry Lab 1. To introduce students to soil sampling, analysis, and che						0	1	2	2	1 41	-1 1	100	100	1
		characterization techniques.							CO1	Able to understand the chemical composition and key parameters of soil quality.						
Course Objectives		To understand soil's interaction with pollutants and its role in environmental health. To enhance laboratory competence in environmental material characterization.						Course Outcomes CO3		Able to conduct tests related to soil fertility and contamination.						
										Able to utilize lab instrumentation for elemental						
No.	COs	Mapping with Program Outcomes (POs)									1	,	Mapping with PSOs			
NO.	COS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	0	3	3	2	3	2	0	0	3	0	3	3	0	3	2
2	CO2	0	0	0	2	0	0	0	0	3	0	3	3	0	3	2
3	CO3	0	3	3	2	3	0	0	0	3	0	3	3	0	3	2
4	CO4	0	3	3	2 2	3 3	2	0	0	3	0	3	3	0	3	2 2
5	CO5				<u></u>						U	3				
No.		SYLLABUS Content Hours COs													1	
I	Soil sa	sampling and preparation techniques											1	CO1, CO3,		
II	Deteri	rmination of soil pH, EC, and moisture content											1	CO5		1
III	Analy	lysis of cation exchange capacity (CEC)											1		CO1	
IV	Organ	nic carbon and nitrogen content estimation											2		CO1, CO3, CO5	
V	Phosp	sphorous and potassium analysis											2	CO	CO1, CO3, CO5	
VI	Heavy	avy metal contamination assessment (As, Pb, Cd)											1	CO1, CO3, CO5		
VII	Meası	surement of soil permeability and porosity													CO1, CO3, CO5	
VIII	Leach	hing column studies and pollutant transport												CO1, CO3, CO5		I
		Total Hours														
		adings														
l .	Sparks	s, D. L. –	Environm	ental Soil	Chemistry, Academic Press											1
2.	Brady	, N. C., &	Weil, R. I	R. – The N	Nature and Properties of Soils, Pearsor	n										
3.	Pierzy	nski, G. I	√l., Sims,	J. T., & Va	ance, G. F. – Soils and Environmental (Quality, CR	.C Press									
4.	Jackso	on, M. L.	– Soil Che	mical Ana	alysis, Prentice Hall of India											
					Analysis, ICAR Publications											
			,	,	Chemistry, Academic Press											
					Nature and Properties of Soils, Pearsor											
8.	Pierzy	nski, G. I	۷., Sims, .	J. T., & Va	ance, G. F. – Soils and Environmental (Quality, CR	.C Press									