

# DEPARTMENT OF CIVIL ENGINEERING

## M. Tech. (Geotechnical Engineering)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>1<sup>st</sup> YEAR</b>					<b>Semester- I (Autumn)</b>									
1.	CEN-521	Advanced Numerical Analysis	PCC	4	3	-	2	3	-	10-25	25	15-25	30-40	-
2.	CEN-522	Advanced Soil Mechanics	PCC	4	3	1	2/2	3	-	15-30	20	15-25	30-40	-
3.	CEN-523	Engineering Behaviour of Rocks	PCC	4	3	1	2/2	3	-	15-30	20	15-25	30-40	-
4.	CEN-524	Soil Dynamics and Machine Foundations	PCC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
5.	CEN-525	FEM in Geotechnical Engineering	PCC	4	3	-	2	3	-	10-25	25	15-25	30-40	-
		Total		20	15	3	4							
					<b>Semester-II (Spring)</b>									
1.	CEN-700	Seminar	SEM	2	0	0	2	-	-	-	-	-	100	-
2.		Programme Elective-I	PEC	4	-	-	-	-	-	-	-	-	-	-
3.		Programme Elective-II	PEC	4	-	-	-	-	-	-	-	-	-	-
4.		Programme Elective-III	PEC	4	-	-	-	-	-	-	-	-	-	-
5.		Programme Elective-IV	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		18										
<b>2<sup>nd</sup> YEAR</b>					<b>Semester- I (Autumn)</b>									
1.	CEN-701A	Dissertation Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
					<b>Semester-II (Spring)</b>									
1.	CEN-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										
		Total Credits		<b>68</b>										

**Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.**

## Program Elective Courses (Geotechnical Engineering)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	CEN-545	Finite Element Method	PEC	4	3	-	2	3	-	10-25	25	15-25	30-40	-
2.	CEN-621	Advanced Geotechnical Exploration and Testing	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
3.	CEN-622	Advanced Foundation Engineering	PEC	4	3	1	2/2	3	-	15-30	20	15-25	30-40	-
4.	CEN-623	Stability Analysis of Slopes	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
5.	CEN-624	Design of Under-Ground Excavations	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
6.	CEN-625	Ground Improvement Engineering	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
7.	CEN-626	Foundations on Weak Rocks	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
8.	CEN-627	Landslide Analysis and Control	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
9.	CEN-628	Constitutive Modeling of Geological Materials	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
10.	CEN-629	Earthquake Resistant Design of Geotechnical Structures	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
11.	CEN-638	Climate Change and its Impact on Water Resources	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-
12.	CEN-650	Design of Bridge Sub-structure	PEC	4	3	-	2	3	-	10-25	25	15-25	30-40	-
13.	CEN-652	Geomatics for Civil Engineering	PEC	5	3	-	2	3	-	10-25	25	15-25	30-40	-
14.	CEN-639	Transportation Data Analysis Techniques	PEC	4	3	1	-	3	-	20-35	-	20-30	40-50	-