



DEPARTMENT OF CIVIL ENGINEERING

COURSE PLAN – PART I			
Name of the programme and specialization	B.Tech. Civil Engineering		
Course Title	Geotechnical Engineering Laboratory		
Course Code	CELR 15	No. of Credits	2
Course Code of Pre-requisite subject(s)	Geotechnical Engineering-I&II		
Session	July /2022	Section	B
Name of Faculty	Dr. Deendayal R	Department	Civil Engineering
Official Email	deendayal@nitt.edu	Telephone No.	0431-250-3170
Name of Course Coordinator(s)	Dr. Deendayal R		
Official E-mail	deendayal@nitt.edu	Telephone No.	0431-250-3170
Course Type (please tick appropriately)	<input type="checkbox"/> Elective course <input checked="" type="checkbox"/> Core course <input type="checkbox"/> Elective course		
Syllabus (approved in BoS)			
Grain Size analysis - Consistency limits - Specific gravity - Permeability tests - Unconfined compression test - Direct shear test - Core cutter and sand replacement - Compaction test - California bearing ratio test - Vane shear test - Tri-axial test - Consolidation test			
COURSE OBJECTIVES			
1. To estimate index properties of soils (coarse and fine) 2. To estimate consistency limit of fine grained soils 3. To estimate shear strength of soils by direct shear test, triaxial shear test, vane shear test & unconfined compressive test 4. To estimate the engineering properties of the soils by density test, CBR test permeability test and consolidation test			
MAPPING OF COs with POs			
Course Outcomes	Programme Outcomes (PO) (Enter Numbers only)		
1. Proper soil classification and comments its suitability construction	1,2,3,4		
2. Estimate soil consistency and compaction characteristics	1,2,3,4		
3. Estimate soil design parameter for strength estimation	1,2,3,4,7		
4. Proper interpretation among the estimated soil design parameters	1,2,3,4,7,10		



COURSE PLAN – PART II

COURSE OVERVIEW

To performing various laboratory tests to determine the characteristics and mechanical properties of soil according to the procedures.

COURSE TEACHING AND LEARNING ACTIVITIES

S.No.	Week/Contact Hours	Topic	Mode of Delivery
1	Week 1	Grain Size Analysis	Explanation and Practice
2	Week 2	Specific Gravity	Explanation and Practice
3	Week 3	Consistency Limits	Demo and Practice
4	Week 4	Permeability Test- Constant Head Method	Demo and Practice
5	Week 5	Permeability Test- Falling Head Method	Demo and Practice
6	Week 6	Unconfined Compression Test	Demo and Practice
7	Week 7	Compaction Test	Explanation and Practice
8	Week 8	Core Cutter Method	Explanation and Practice
9	Week 9	Sand Replacement Method	Explanation and Practice
10	Week 10	Direct Shear Test	Demo and Practice



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11	Week 11	California Bearing Test	Explanation and Practice
12	Week 12	Vane Shear Test	Demo and Practice
13	Week 13	Triaxial Test	Demo and Practice
14	Week 14	Consolidation Test	Demo and Practice
15	Week 15	Final Assessment	

COURSE ASSESSMENT METHODS (shall range from 4 to 6)

S.No.	Mode of Assessment	Week/Date	Duration	% Weightage
1	Record note contains 10 mark (finally totaled to 50 marks)	Every Week	3 hour	50%
2	Mid Semester exam	10 th -12 th week	1/2 hour	25%
CPA	Compensation class (missed experiments)	Semester-Last week	3 hour	-
4	Final Assessment *	15 th / 16 th week	3 hour	25%
5	Total			100 marks

***mandatory; refer to guidelines on page 4**

ESSENTIAL READINGS : Textbooks, reference books and journals.

References:

1. Gopal Ranjan Rao, P. Basic and Applied Soil Mechanics, New Age International Pvt. Limited, New Delhi, 2002.
2. Murthy, V.N.S., A text book of Soil Mechanics and Foundation Engineering, UBSN Publishers Distributors Ltd., New Delhi, 1999
3. Punmia, B.C. Soil Mechanics and Foundation Engineering, Laxmi Publications Pvt. Ltd., New Delhi, 1995.
4. Braja M. Das, Fundamentals of Geotechnical Engineering, Thomson Asia Pvt. Ltd., Singapore, 2005

COURSE EXIT SURVEY



1. Class committee meetings.
2. Online - Feedback forms submission through MIS.

COURSE POLICY

- Minimum 75% attendance is compulsory for attending the final examination.

ATTENDANCE POLICY (A uniform attendance policy as specified below shall be followed)

- At least 75% attendance in each course is mandatory.
- A maximum of 10% shall be allowed under On Duty (OD) category.
- Students with less than 65% of attendance shall be prevented from writing the final assessment and shall be awarded 'V' grade.


ACADEMIC DISHONESTY & PLAGIARISM

- Possessing a mobile phone, carrying bits of paper, talking to other students, copying from others during an assessment will be treated as punishable dishonesty.
- Zero mark to be awarded for the offenders. For copying from another student, both students get the same penalty of zero mark.
- The departmental disciplinary committee including the course faculty member, PAC chairperson and the HoD, as members shall verify the facts of the malpractice and award the punishment if the student is found guilty. The report shall be submitted to the Academic office.
- The above policy against academic dishonesty shall be applicable for all the programmes.

ADDITIONAL INFORMATION, IF ANY

The Course Coordinator's Room No. :: 101 (Civil- Annex Building)
Timings : 10 a.m. to 5 p.m.
Email ID : deendayal@nitt.edu
Telephone No. : 0431-250-3170

FOR APPROVAL


Course Faculty _____

CC- Chairperson _____

HOD _____



7/9/22



Guidelines

- a) The number of assessments for any theory course shall range from 4 to 6.
- b) Every theory course shall have a final assessment on the entire syllabus with at least 30% weightage.
- c) One compensation assessment for absentees in assessments (other than final assessment) is mandatory. Only genuine cases of absence shall be considered.
- d) The passing minimum shall be as per the regulations.

B.Tech. Admitted in				P.G.
2018	2017	2016	2015	
35% or (Class average/2) whichever is greater.		(Peak/3) or (Class Average/2) whichever is lower		40%

- e) Attendance policy and the policy on academic dishonesty & plagiarism by students are uniform for all the courses.
- f) Absolute grading policy shall be incorporated if the number of students per course is less than 10.
- g) Necessary care shall be taken to ensure that the course plan is reasonable and is objective.