Marwadi University

Syllabus for Master of Technology

Geotechnical Engineering

Computer Application in Geotechnical Engineering

01GT0208 (LC)

Objective of the Course:

- To provide skill for prepare excel sheet and constitutive modeling of soil

Credit Earned: 2

Students learning outcomes:

After successful completion of the course, it is expected that student will be able to,

1. To understand the concept of software based numerical modelling.
2. To carry out basic numerical modelling for practical Geotechnical issues in software

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE (E)	CSE (I)	IA (M)	Viva (V)	Term Work (TW)	
00	00	04	02	00	00	00	50	50	100

Detailed Syllabus

Sr. No.	List of Experiments
1	Application: Excel spread sheets for the design of shallow foundations-1
2	Application: Excel spread sheets for the design of shallow foundations-2
3	Application: Excel spread sheets for the design of shallow foundations-3
4	Application: Excel spread sheets for the design of shallow foundations-4
5	laboratory testing applications – Liquid Limit and Plastic Limit
6	laboratory testing applications – Specific Gravity and Compaction test
7	laboratory testing applications – Direct Shear Test
8	laboratory testing applications – CBR Test
9	Applications of Software in Settlement Calculations
10	Applications of Software in Retaining Wall Analysis
11	Applications of Software in Slope Stability Analysis
12	Applications of Software in Spread Footing Analysis
13	Applications of Software in Pile Foundation Analysis
14	Applications of Software in Earth Pressure Analysis

Suggested Theory Distribution

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The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	5%	20%	25%	25%	20%

Instructional Method and Pedagogy:

1. Use of Learning Management system like canvas
2. Demonstration through presentations on power point and videos and lectures
3. Brainstorming and group discussion sessions
4. Collaborative learning

References

1. Geo5 manuals