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Department of Building Engineering	
Geology and Soil Mechanics Lab. (68307)	
Total Credits	**1**
major compulsory	
Prerequisites	P11Synch. : Geology and Soil Mechanics (68300)

Course Contents

This lab will cover essential soil mechanics laboratory tests to help the students understand the basic knowledge in soil mechanics and foundation engineering. It includes the following tests: moisture content, atterberg limits (liquid and plastic limits), relative density, compaction, field compaction, permeability, shear strength tests (unconfined and direct shear box) and consolidation

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Ability to measure soil physical properties (moisture content, Atterberg Limits, specific gravity, permeability, etc.)	B	40 %
2	Ability measure characteristics use in soil classification (sieve analysis, hydrometer)	B	10 %
3	Ability to measure and analyze soil compaction in lab. and field.	B	15 %
4	Ability to measure soil behavior characteristics and shear strength parameters under different loading conditions. (Consolidation, shear tests,unconfined compression test).	B	15 %
5	Ability to communicate effectively	G	20 %

Textbook and/ or Refrences

1. Soil Mechanics Laboratory Manuals, Braja Das, Seventh Edition, 2009. 2. Soil Mechanics Laboratory Manuals,Isam Jardaneh+Eng.Ahmed Bdair.

Assessment Criteria	Percent (%)
Mid. Term Exam	30 %
Laboratory Work	30 %
Final Exam	40 %

Course Plan

Week	Topic
1	Introduction to Soil Mechanics Lab Tests and Preparation of Reprot
2	Moisture Content Test
3	Specific Gravity Test
4	Sieve Analysis Test
5	Hydrometer Analysis Test
6	Atterberg Limits Tests (Liquid Limit and Plastic Limit)
7	Compaction Test
8	Field Compaction Test
9	Permeability Test
10	Consolidation Test
11	Direct Shear Test
12	Unconfined Compression Test
13	Plate Bearing Test (if time permits)
15	Final Exam