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Department of Civil Engineering	
Soil Mechanics (61331)	
Total Credits	**3**
major compulsory	
Prerequisites	P1 : Mechanics of Materials (61207) OR Mechanics of Materials (61212) P2 : Engineering Geology (61230) OR Eng'g Geology (61203)

Course Contents

Students will learn the fundamental principles of soil behavior including physical and mechanical properties, as well as the classification, identification, and soil-testing. Students will also be introduced to the principles of permeability and seepage as well as the theory and applications of consolidation. The course ends with a look at shear strength applications on soil and soil bearing for building foundations and other purposes.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Have good understanding of the origin of the soil and geological cycle, phase diagram and consistency of soil Atterberg limits and soil classification.	A	30 %
2	Able to describe and quantify soil compaction,	A	15 %
3	Able to describe and quantify soil permeability and to perform seepage analysis including flow net.	A	15 %
4	Able to estimate soil stresses and settlement under different types of loads.	E	25 %
5	Understanding and evaluate soil shear strength.	A	15 %

Textbook and/ or Refrences

1. Principles of Geotechnical Engineering, By: Braja M. Das, fifth Edition, 2002, Publisher: Thomson 2. Other references will be furnished during the semester.

Assessment Criteria	Percent (%)
First Exam	20 %
Second Exam	20 %
Homeworks	10 %
Final Exam	50 %

Course Plan

Week	Topic
1	Introduction to Geotechnical Engineering
2	Origin of Soil and Grain Size
3	Origin of Soil and Grain Size
4	Weight Volume Relationships, Plasticity, and Structure of Soil
5	Engineering Classification of Soil
6	MIDTERM EXAM 1
7	Soil Compaction
8	Permeability and Seepage
9	Permeability and Seepage
10	Stresses in a Soil Mass
11	Stresses in a Soil Mass
12	MIDTERM EXAM 2
13	Compressibility of Soil
14	Compressibility of Soil

15	Shear Strength of Soil
16	Final Exam