CE 260 SOIL & ROCK MECHANICS

	Content	No of hours	Week No.	Date
TOPIC	**DETAILS**			
SOILS IN CIVIL ENGINEERING	Various encounters or uses of Soils in Civil Engineering; Solution of Soil Engineering Problem	1	2	Jan. 25-29
FORMATION OF SOILS	Physical Weathering; Chemical Weathering; Types of soils based on method of formation; Constituents of Soils	1	2	Jan. 25-29
INDEX PROPERTIES	Particle Size Distribution; Atterberg Limits	2	3	Feb. 1-5
SOIL CLASSIFICATION SYSTEM	Cassagrande, Unified, AASHTO Soil Classification Systems	2	4	Feb. 8-12
PHASE RELATIONS	Soil block diagram	1	5	Feb. 15-19
	Water Content; Density; Void ratio; Porosity; Saturation	1	5	Feb. 15-19
COMPACTION	Water Content-dry density relationship; properties of compacted soils; Laboratory Compaction	2	6	Feb. 22-26
	Compaction specification; Compaction equipment; field vrs laboratory compaction; Compaction control testing	2	7	Feb. 29-Mar 4
STRESSES IN SOILS	Principal Stresses; Mohr Circle; Shear Resistance between soil particles;	2	8	Mar. 7-11
	Concept of stress; Geostatic Stresses; Mohr-Coulomb Failure Criterion; Concept of Effective Stress	2	9	Mar. 14-18
LABORATORY MEASUREMENT OF SHEAR STRENGTH	The Triaxial Test	1	10	Mar. 21- 25
	The Direct Shear Test	1	10	Mar. 21- 25
Rock Mechanics		6	11-13	Mar. 28 - Apr 15

Laboratory Tests to be conducted

Sieve Analysis
Hydrometer Test
Atterberg Limits
Compaction
Triaxial Test / Direct Shear Test

Lecture Periods: Check Time Table

Lab Work Check Time Table (Soil Mechanics Laboratory)

Course Assessment / Requirement

Attendance/Assignments: 5%
Lab Work: 10%
Mid Sem: 15%
Final Exams: 70%

Instructor: Dr. Frederick Owusu-Nimo
Email (frednimo@gmail.com)
Phone: 0543333174
Office Number 004 (Engineering Block)

Recommended Text:

Das, Braja M., Principles of Geotechnical Engineering. Seventh Edition. Thomson Learning, 2009.

Cheng, L., and Evett, J. B., Soils and Foundation. 8th Edition. Pearson Higher Ed, 2013.

Craig R. F., Craigs Soil Mechanics. 7th Edition. CRC Press, 2004.

Holtz, R.D., Kovacs, W.D., and Sheahen, T. C, Geotechnical Engineering, 2nd Edition, Pearson Higher Ed, 2011.