

CE 281

Introduction to Geotechnical Engineering

(Required for a BSCE degree)

Instructor : Prof. Abdullah I. Al-Mhaidib

Room # : 2A56

Phone # : 4677033

Topics Covered

1. Introduction
2. Structure of earth
3. Minerals
4. Rocks
5. Igneous rocks and volcanoes
6. Weathering, erosion, and soil formation Sedimentary rocks
7. Metamorphic rocks
8. Structural features of rock masses
9. Geology of water supply
10. Geology of Saudi Arabia

Course learning Objectives

Students completing this course successfully will be able to

- a. Understand basic of engineering geology.
- b. Understand the basic of soil and rock mechanics

Class/ tutorial Schedule

Two lecture sessions and one tutorial session per week (50 minute each session)

Contribution of Course to Meeting the Professional Component

1. Students learn the process of soil and rock formation.
2. Students learn the basic properties of soils and rocks.
3. Students learn how to identify and classify soils and rocks.
4. Students improve their writing, communication and presentation skills.

Relationship of Course to Program Outcomes

1. Students apply principles of physics and chemistry.
2. Students are able to design experiments and analyze data.
3. Students are able to identify soils and rocks.
4. Students recognize the importance of weathering, erosion and transportation process on soil and ground properties.
5. Students recognize the importance of reading and understanding technical contents in English in order to achieve life-long learning and be able to carryout their responsibilities.

6. Students are encouraged to improve their writing, communication and presentation skills.

Textbook(s) and/or Other Required Material

McLean, A. C., and Gribble, C. D. (1985). GEOLOGY for CIVIL ENGINEERING. 2nd Edition, George Allen & UNWIN.

Grade Distribution

Mid Term Exam	25%
Lab.	25%
Homework	10%
Final Exam	40%
Total	100%