



**The Hashemite University  
Faculty of Engineering  
Civil Engineering Program  
Course Syllabus**



**Course Title:** Geotechnical Engineering Lab      **Course Number:** 110401338  
**Designation:** Compulsory      **Prerequisite(s):** 110301336  
**Instructor:** Eng. Hussien Al-deeky      **Instructor's e-mail:** aldeeky@hu.edu.o  
**Office Hours:** 9:00 – 10:00: Sun., Tue. & Thurs., 9:30 – 11:30: Mon. & Wed.

**Course Description (catalog):** water content determination, specific gravity, liquid and plastic limit, Grain size distribution (sieve analysis), hydrometer analysis, compaction, in-situ field density, constant and falling head permeability tests, consolidation test, unconfined compression test, direct shear test, triaxle test

**Textbook(s) and/or Other Supplementary Materials:**

Das, B “Soil Mechanics laboratory.” 6<sup>th</sup> edition, Oxford publications.

**References:**

Bowles JE. Engineering properties of soil and their measurement. 4<sup>th</sup> edition, McGraw-Hill, INC.

**Major Topics Covered:**

Topics	No. of Weeks	Contact hours
Introduction	1	3
Water content of soil	1	3
Specific gravity of soil	1	3
Grain size distribution(sieve analysis)	1	3
Grain size distribution(hydrometer)	1	3
Atterbeg limits of soil	1	3
Compaction test	1	3
Field density and degree of compaction	1	3
Midterm exam	1	1
Coefficient of permeability of soil	1	3
Consolidation test	2	3
Direct shear test	1	3
Unconfined compressive strength	1	3
Traixail compression test (UU test)	1	3
Final Exam	1	2
<b>Total</b>	<b>15</b>	<b>45</b>

**Specific Outcomes of Instruction (Course Learning Outcomes):**

**After completing the course, the student will be able to:**

1. To have the Knowledge and the theory behind the invention of soil mechanics device tools and the measured or evaluated properties of soil (a, b)
2. To have practical tools, Knowledge, and experience used to obtain or evaluate the properties of soil for engineering approach (a, b, k).

**Student Outcomes (SO) Addressed by the Course:**

#	Outcome Description	Contribution
<b>General Engineering Student Outcomes</b>		
(a)	an ability to apply knowledge of mathematics, science, and engineering	L (30%)
(b)	an ability to design and conduct experiments, as well as to analyze and interpret data	H(65%)
(c)	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d)	an ability to function on multidisciplinary teams	
(e)	an ability to identify, formulate, and solve engineering problems	
(f)	an understanding of professional and ethical responsibility	
(g)	an ability to communicate effectively	
(h)	the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	



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(i)	a recognition of the need for, and an ability to engage in life-long learning	
(j)	a knowledge of contemporary issues	
(k)	an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	L(5%)
<b>H=High, M= Medium, L=Low</b>		

**Grading Plan:**

Midterm Exam	30 Points	<b>21/11/2017 [ 2:00 ~ 3:00]</b>
Lab work and Report	30 Points	
Final exam	40 points	

- General Notes:**
- 1-The students should do the course assignments individually.
  - 2- No assignment will be accepted after the due date.
  - 3-Students should perform the lab tests by themselves after they get the instructions and procedures
  - 4-Students should meet in the lab room on time.

**Prepared by:** Eng.Hussien Al-deeky **Date:** 21<sup>th</sup> Sept 2017.