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:	Dr. Hend Alshatnawi	**Instructor's e-mail:**
Office Hours:		

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 th edition, Oxford publications.

References:

Bowles JE. Engineering properties of soil and their measurement.4th 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
Total	**15**	**45**

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.
2. To have practical tools, Knowledge, and experience used to obtain or evaluate the properties of soil for engineering approach.

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
	General Engineering Student Outcomes	
1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	H (100)
2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors	
3	an ability to communicate effectively with a range of audiences	

4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts	
5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives	
6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.	
7	an ability to communicate effectively An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.	
H=High, **M**= Medium, **L**=Low		

Grading Plan:

Midterm Exam	30 Points
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: **Date:**