The Hashemite University
Faculty of Engineering
Civil Engineering Program
Course Syllabus

Course Title:	**Foundation Eng. 3 (3,0, 0)**	**Course Number: 110401435**	
Designation:	Compulsory	**Prerequisite(s):** 110401336	
Instructor:	Dr. Omar Hattamleh	**Instructor's e-mail:**	hattam@hu.edu.jo
Office Hours:	11:00-12:30: Mon. Wed. On campus & on MSteam Wed .		

Course Description (catalog): Site investigation, bearing capacity of shallow foundation, distribution of stresses in soils, settlement of shallow foundation, factors to be considered in foundation design, introduction to deep foundation, lateral earth pressure and retaining walls, sheet pile walls, braced excavations.

Textbook(s) and/or Other Supplementary Materials:

Principles of Foundation Engineering, Braja M. Das, latest edition**.**

References:

1. Foundation Analysis and Design", Joseph E. Bowles, , 5th Edition, 2001, McGraw Hill
2. "Foundation Design and Construction", MJ Tomlinson, 7th Edition, 2001, Pearson Higher Ed, England

Major Topics Covered:

Topics	No. of Weeks	Contact hours*
• Introduction, Syllabus, Soil Mechanics, Review	1	3
• Geology Review; Field Investigations; Subsurface Exploration; Sampling; In-Situ Testing	1	3
• Shallow Foundations; Bearing Capacity; Footing Design; Settlement	6	12
• Factors Influencing Footing Design; Mat Foundations; Deep Foundations, Piles; Piles-Load Behavior; Static Capacity; Uplift; Piles-Dynamic Capacity; Group Behavior	3	12
• Deep Foundations, Drill Shafts, Load Behavior, Capacity	1	3
• Lateral Earth Pressures; Retaining Walls ; Sheet Pile Walls; Braced Excavations	3	12
Total	**15**	**45**

*Contact hours include lectures, quizzes and exams

Specific Outcomes of Instruction (Course Learning Outcomes):

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

1. Understanding of the need and procedures for subsurface investigations and subsurface condition evaluation (1,2).
2. Insight into the material properties required selecting a suitable foundation type for specific site conditions. (1, 2).
3. Understanding of foundation behavior to form the basis for judging the performance of a foundation under service conditions. (1, 2).
4. Insight into the soil mechanics aspects of design of the various foundation types (1, 2).

Student Outcomes (SO) Addressed by the Course:

#	Outcome Description	Contribution
General Engineering Student Outcomes		
(1)	**SO (1)** - an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics	M (50%)
(2)	**SO (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	M (50%)
H=High, **M**= Medium, **L**=Low		

Grading Plan:

First Exam	30 Points	**Mon. 14/11/2022 [class meeting time]**
Second Exam	30 Points	**Mon. 19/12/2022 [class meeting time]**
Final exam	40 points	**Registrar Office**

General Notes: Beware of Plagiarism: copying and handing in for credit someone else's work
Any plagiarism case will result in an automatic 'F' for the course

Prepared by: Dr. omar hattamleh **Date:** 10th Oct 2022