

Course Information	
Course title	Geotechnical Engineering Practice
Semester	109-2
Designated for	COLLEGE OF ENGINEERING DEPARTMENT OF CIVIL ENGINEERING
Instructor	HSIEH, HSII-SHENG
Curriculum Number	CIE5115
Curriculum Identity Number	521 U9050
Class	
Credits	3.0
Full/Half Yr.	Half
Required/ Elective	Elective
Time	Thursday 2,3,4(9:10~12:10)
Remarks	Restriction: within this department (including students taking minor and dual degree program) The upper limit of the number of students: 30.
Ceiba Web Server	http://ceiba.ntu.edu.tw/1092CIE5115_GEP
Course introduction video	
Table of Core Capabilities and Curriculum Planning	Association has not been established

Course Syllabus

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Course Description	Address practical geotechnical issues including: (1) site investigation and lab testing, (2) raft foundation design, (3) liquefaction mitigation, (4) pile construction, (5) pile design, (6) excavation schemes, (7) construction of diaphragm wall, (8) grouting, (9) ground water related problems																										
Course Objective	Allow students to have a glimpse on design and construction practices related to the foundation and excavation issues of highrise buildings																										
Course Requirement	Soil mechanics Foundation engineering																										
Office Hours	Appointment required. Note: Can be reached by email or phone any time																										
References	Foundation design codes Advanced deep excavation analysis and design, C.Y. Ou Foundation Engineering Handbook, H.Y., Fang, VNR																										
Designated reading	待補																										
Grading	<table border="1"> <thead> <tr> <th>No.</th> <th>Item</th> <th>%</th> <th>Explanations for the conditions</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Class participation</td> <td>5%</td> <td></td> </tr> <tr> <td>2.</td> <td>Midterm exam</td> <td>30%</td> <td></td> </tr> <tr> <td>3.</td> <td>Final exam</td> <td>35%</td> <td></td> </tr> <tr> <td>4.</td> <td>Midterm report</td> <td>15%</td> <td>Groups of 1~3 students</td> </tr> <tr> <td>5.</td> <td>Final report</td> <td>15%</td> <td>Groups of 1~3 students</td> </tr> </tbody> </table>			No.	Item	%	Explanations for the conditions	1.	Class participation	5%		2.	Midterm exam	30%		3.	Final exam	35%		4.	Midterm report	15%	Groups of 1~3 students	5.	Final report	15%	Groups of 1~3 students
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Progress		
Week	Date	Topic
Week 1	2/25	Site investigation and lab testing
Week 2	3/04	Determination of soil parameters
Week 3	3/11	Bearing capacity of raft foundation
Week 4	3/18	Settlement of raft foundation/Modulus of subgrade reaction
Week 5	3/25	Liquefaction mitigation
Week 6	4/01	Spring break
Week 7	4/08	Pile construction
Week 8	4/15	Pile loading test and pile capacity
Week 9	4/22	Midterm exam
Week 10	4/29	Excavation schemes
Week 11	5/06	Special excavation techniques
Week 12	5/13	Diaphragm wall construction
Week 13	5/20	Excavation stability and protection of adjacent buildings
Week 14	5/27	Jet grouting
Week 15	6/03	Fracturing grouting
Week 16	6/10	Ground water related foundation and excavation problems
Week 17	6/17	Final exam