

Subject Title: 環境修復保全学 [Environmental Rehabilitation and Conservation]							
Subject Category:	Environmental Sciences	Department	MI	Credit	2	Code	059112
Semester	Second/Fall	Day(s)/Period(s)	Mon.3				
Class Format	Lecture			Location			
Instructor	向後 雄二 [KOGO Yuji]						
Office				Email	kohgo@cc.tuat.ac.jp		

■ Outline & Target

In this lecture, we provide fundamental and advanced knowledge of geotechnical engineering in order to maintain and repair farmlands and agricultural facilities. Especially, we classify their damages due to natural disasters and study about theories and methods to repair the facilities on the base of environmental geotechnical engineering.

■ Course description

1st Introduction: Modeling and fundamental properties of soils

2nd Stress and strain

3rd Hydraulic properties of saturated soils

4th Hydraulic properties of unsaturated soils

5th Laboratory tests for unsaturated soils

6th Consolidation of unsaturated soils

7th Foundation of elastoplastic theory

8th Mechanical properties of saturated soils

9th Critical state of saturated soils (1)

10th Critical state of saturated soils (2)

11th Mechanical properties of unsaturated soils

12th Elastoplastic theory for unsaturated soils

13th Interpretations of unsaturated soil behavior

14th Initial boundary value problems for geoenvironmental issues

■ Prerequisites

It is desirable that students, who will take this lecture, have fundamental knowledge of soil mechanics

■ Textbook(s)

Handouts

■ Reference publication(s)

Soil Mechanics for unsaturated soils, Fredlund, D. G. and Rahardjo, H. Wiley-International Pub.
The mechanics of soils, Atkinson, J. H. and Bransby, P. L., McGRAW-HILL

■ Evaluation standards

Final report (50%), Home-works (50%)

■ Message from instructor(s)

You may obtain aspects of environmental geotechnical engineering by taking this lecture

■ Course keywords

Unsaturated soil mechanics, Natural disaster, Agricultural facilities, Environmental geotechnical engineering

■ Office hours

13:00-14:00 weekday

■ Remarks 1

This lecture will be commenced from 14th Oct.

■ Related URL

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■ Last update

9/27/2013 5:28:42 PM