

Advanced Foundation Engineering I (지반공학특론 I)

- Use English Only during Class hours -

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Course No.	457.603 (3-3-0)
Semester	2008, Spring
Course Meeting Times	Two sessions/week 1.5hours/session
Level	Graduate

1. Synopsis

In this course, we will study about foundation and its behavior. Multiple theories and empirical correlations have been presented where applicable. The judgement needed to properly apply the theories, equations, and graphs to the evaluation of soils and foundation design cannot be overemphasized or completely taught by any textbook. Field experience must supplement classroom work. Finally we can obtain a various knowledge about foundation engineering and it also help you be a great engineer in the future

2. Contents

week 1: Basic Steps in Engineering Analysis

week 2: Foundations : The necessary and Sufficient Conditions

week 3: Modification of Bearing Capacity Factors

week 4: Various Types of the Bearing Capacity Calculate Method

week 5: Stress Distribution and Settlement of Shallow Foundations

week 6: Foundations - Research and Practice

week 7: Combined and Special Footings

week 8: Mid-term Exam

week 9: Pile Foundation : Overview

week 10: Pile-Soil Interaction Phenomena

week 11: Dynamics of Pile Driving

week 12: All Casing and RCD Method

week 13: Dynamic Pile Load Test and Analysis

week 14: Integrity Tests of Drilled Shaft

week 15: Final Exam

3. Course Grading

Attendance : 10%

Homework : 20%

Mid Exam : 30%

Final Exam : 40%

4. Books & References

- ① Foundation Engineering Handbook (1991)
edited by H-Y Fang (formerly winterkorn & Fang)
Van Nostrand Reinhold
- ② Foundation Analysis & Design (1997)
by J.E. Bowles
McGraw-Hill companies, Inc.
- ③ Principles of Foundation Engineering (1999)
by B.M. Das
Johns & Bartlett Publishers
- ④ Design of Pile Foundations (1977)
Aleksandar S. VESIC
Duke University. Durham, North Carolina
- ⑤ Foundation and Retaining Structures - Research and Practice
Coffey Geosciences Pty and The University of Sydney, Australia

5. Lecture Notes

<http://geolab.snu.ac.kr>