

地下水文學

(Groundwater Hydrology)

Lecturer: Jui-Sheng Chen and Chuen-Fa Ni

OFFICE HOUR: Thursday 10:00~12:00 or by appointment

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Course Overview

This course covers fundamentals of groundwater hydrology, emphasizing the role of groundwater system, the relation of flow and geologic structure. The course will involve the following topics: hydrological cycle, types and characteristics of aquifers, aquifers and groundwater flow, characterization of groundwater flow, estimations of aquifer properties, methods to collect site specific data, and groundwater flow modeling. The objective of this course is to introduce students the fundamentals of groundwater flow and the application aspects of the novel measurement technologies in the fields of groundwater.

Course Requirements

Assignments

Assignments will be due either one or two weeks after they are handed out depending on their length. Grades will be reduced 10%-20% for each day late.

Exams

Exams will include one midterm and a final exam.

Grading

Grading criteria.	
ACTIVITIES	PERCENTAGES
Assignments	40%
Midterm Exam	30%
Final Exam	30%

Outline

1. Hydrological cycle and groundwater
2. Types and characteristics of aquifers
3. Aquifers and groundwater flow
4. Characterization of groundwater flow
5. Laboratory and field estimations of aquifer properties
6. Methods to collect and analyze site specific data
7. Groundwater flow models

Text and References

1. Schwartz, F.W. and H. Zhang, *Fundamentals of Ground Water*, John Wiley & Sons Inc, New York, 2003, ISBN: 0-471-13785-5.
2. Freeze R. A. and J. A. Cherry, *Groundwater*, Prentice Hall, Upper Saddle River, NJ, 1979. ISBN: 0-13-365312-9.