

Stanford University
School of Engineering

CEE 266C

***ADVANCED TOPICS IN
HYDROLOGY AND WATER
RESOURCES***

David L. Freyberg
Associate Professor of Civil & Environmental Engineering



TODAY

- Introductions
 - Logistics and people
 - Course goals
 - Course strategy
 - Expectations
- Building the syllabus



CIVIL & ENVIRONMENTAL ENGINEERING 266C
*ADVANCED TOPICS IN HYDROLOGY AND
WATER RESOURCES*

Spring 2008 - 09
MW 2:15 - 4:05 pm
Y2E2 253

<http://coursework.stanford.edu>

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WATER RESOURCES*

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COURSE GOALS

- Develop a relatively in-depth (rigorous) understanding of one or more hydrologic process, system, or tool; and/or one or more water resources system or component

In-depth: advanced texts, archival journal literature, analysis tools

- Learning skills

Develop independent and cooperative learning skills

Problem formulation

Reading the literature

- Communication skills

Oral presentation

Discussion

Written



COURSE STRATEGY

- Student-led, instructor-guided inquiry

Identify a question *you* would like to be able to answer

◆ Why?

◆ How would you use the answer to this question?

What do we already know?

What knowledge is required to answer the question?

How are we going to acquire that knowledge?

How are we going to apply that knowledge to answer the question?



EXPECTATIONS

- Reading
- Analysis
- Preparation for and participation in discussion
Enthusiastic and vigorous discussion expected, in class or out
- Lead at least one discussion
- Prepare a written proposal to extend knowledge



EXPECTATIONS

- Prerequisites
CEE 266A (introductory hydrology)
CEE 266B (introductory water resources engineering)



TOPICS FOR INQUIRY

- Hydrology
 - Hydrologic process
 - Measurement technique/problem
 - Data analysis method
 - Modeling tool
 - Habitat/ecosystem type
 - Watershed or wetland
- Water resources
 - Water use regime, general or specific
 - Water hazard regime, general or specific
 - Modeling tool
 - Specific technology



TO-DO LIST

- Reading [available in Materials/Overview Literature folder on CourseWork]
 - Horton, Robert E., "Hydrologic Research", *Science*, (86), December 10, 1937, pp. 527-530
 - Brauman, Kate A., et al., "The Nature and Value of Ecosystem Services: An Overview Highlighting Hydrologic Services", *Annu. Rev. Environ. Resour.*, (32), 2007, pp. 67-98
- Assignment
 - Your Schedule (Due 01:02:03 am, Sunday, 05 Apr)
 - Download from Materials/Logistics folder on CourseWork
 - Upload into your Drop Box

