

CE 544 — Water Resources Planning and Management

Integrated solutions to complex problems

FALL 2007: 2:10 – 3:00 MWF

Global water resources are under relentless pressure from development, pollution, climate change. Billions lack access to basic water services. Solutions require commitment and integrated approaches involving the private sector and government. Water managers apply technology, management and political tools to solve problems and sustain viable water systems. The course presents the principles of analysis, decision-making, and problem-solving required in the water arena. It focuses on local and global problems, the water industry, water law, water security, natural systems protection, water use efficiency and management tools. Case studies include Colorado water issues as well as high profile cases from around the world. Student presentations add to the diversity of case study topics. The course is designed for advanced undergraduate students and graduate students in engineering, science, or management fields.

TOPICS

- Integrated Water Resources Management Issues and Principles
- Natural Water Systems and Sustainable Development
- Water Management Infrastructure
- Planning and Decision-making Processes
- Decision Support: Data, Models, Systems Analysis
- Water and Environmental Laws and Administrative Systems
- Financial Planning and Management
- Water Industry Structure, Regulation, and Business Activity
- Solving Large-Scale Water Problems
- River Basin Planning And Coordination
- Trans-boundary issues, hydro-diplomacy, and water treaties
- Drought and Flood Water Management
- Water Quality Management
- Management of Estuaries and Coastal Waters
- International Issues in Water Management

Instructor: Neil S. Grigg, Department of Civil Engineering.

Textbooks: Water Manager's Handbook: A Guide to the Water Industry;
Colorado's Water: Science & Management, History & Politics.