

**VILLANOVA UNIVERSITY
WATER RESOURCES AND
ENVIRONMENTAL
ENGINEERING GRADUATE PROGRAM**

**Evening Course
in**

Water Resource Planning and Management

C.E.E. 7211

NEW OFFERING! – Spring 2004*

(Available through Real Time Distance Education)

Water flows through every aspect of our lives. We depend on it for transportation, for power, for commerce, for inspiration – indeed, for life itself. Yet too often we take this precious resource for granted, or guard it so jealously for one purpose that we forget its fluid nature. Can we meet the challenge of safeguarding our water resources now and for generations to come?

Water resources planning and management cut across traditional political and programmatic boundaries. A water resources planning effort should guide policy and action to achieve the following results:

- An **adequate and reliable supply of suitable quality water** to sustain human and ecological needs.
- **Functional waterway corridors** that minimize flood-induced loss of life, property and floodplain ecology; preserve natural stream channel stability; provide recreational access; and support healthy aquatic and riparian ecosystems.
- **Integrated management of land and water resources** to sustain the quality of life in the Basin; preserving, restoring, and enhancing ecological resources while recognizing our social and economic relationships to these resources.
- **Strong partnerships for the integrated management of water resources** among all levels of government, the private sector, non-governmental organizations, and individuals that have an interest in sustainable water resources management.
- **A shared understanding and appreciation of the Basin's water resources** and a commitment among all Basin citizens to those resources' restoration, enhancement, and protection.

COURSE DESCRIPTION:

This course is a comprehensive introduction to planning and management of water resource systems. It covers theoretical and practical approaches to water resource planning, analysis, design, economics and management. Topics include water resources legislation and regulation, watershed management, modeling, groundwater and surface water supply and

demand, flow management, water quality management, and wetlands protection. Water supply planning including water use, demand projections, allocation, capacity expansion, and reservoir operation will be discussed. It includes consideration of the complex issues resulting from applying static laws and regulations to a dynamic natural resource such as water.



Delaware River Basin

PREREQUISITE: C.E.E. 7111 *Introduction to Hydraulic Engineering and Hydrology*, or UG equivalent.

INSTRUCTOR:

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Prospective students may contact the instructor or the Department of Civil and Environmental Engineering at 610-519-4960.

Further information on all of the Department's graduate programs is available at:

<http://www.engineering.villanova.edu/ce/>

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*Instructor/Course Offerings are subject to change.