

■ Registration

Complete this form or register online:
www.waterontheweb.org/whatsnew/workshop2004.html

Registrations will be accepted on a first-come, first-served basis.

Name:

Name of College/University:

Courses You Teach:

Your Mailing Address:

Telephone Number:

E-mail Address:

Preferred Workshop Date & Location:

Please detach at dotted line and return to:

University of Minnesota Duluth
Minnesota Sea Grant College Program
2305 East 5th Street
Duluth, MN 55812

The University of Minnesota is an equal opportunity employer and educator.

■ When and Where

Three workshops are taking place across the U.S. during Spring 2004. The workshops begin in the mid-day on Day One, and conclude after an all-day session on Day Two.

April 15 & 16 Lac Courte Oreilles Ojibwa
Community College
Hayward, Wisconsin

May 13 & 14 Southwest Texas State
University
San Marcos, Texas

May 21 & 22 Skagit Valley College
Mt. Vernon, Washington

■ Workshop Content

- Overview of Water on the Web
- Introduction to Training Water Science Technicians curriculum and Web site
- Lecture demonstration
- Field lab demonstration
- Internet-based lab demonstration
- Hands-on experience with data and data-visualization tools
- PowerPoint techniques for adapting and using modules
- Participant expectations and guidelines for review

■ Contact Information

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■ Introductory Workshop

Water Resource Management Curriculum



Brought to You by
Water on the Web

Be a Leader in Learning, Testing, and Implementing an Innovative Curriculum

This workshop will introduce community college and four-year college faculty to Water on the Web's "Training Water Science Technicians." This modular, two-semester water resource management curriculum

is delivered through the Internet. At its foundation is real-time data from lakes and rivers nationwide. Workshop participants will receive an introduction to the curriculum and award-winning Web site, training in use of the associated tools that assist in visualizing and interpreting the data, a hands-on experience with some of the curriculum lectures and labs, and stipend for testing portions of the curriculum in their courses and helping to evaluate its effectiveness.

■ Workshop Benefits

- Workshop travel costs covered up to the workshop limit
- Free course materials
- Follow-up support from Water on the Web during the academic year
- One optional M.Ed. science education graduate credit from the University of Minnesota Duluth (cost paid by the participant)
- A stipend for completing module reviews
- Excellent networking opportunities
- Ultimately, your students will gain:
 - Knowledge and skills in data acquisition, integration of theory with applied skills, written and oral communication, presentation and interpretation of results, and the use of advanced technologies
 - Preparation for entering the workforce as technicians or continuing their education



■ The Curriculum

The Web-based curriculum uses PowerPoint lectures and labs that rely on real-time and historical data from a variety of lakes and rivers nationwide. The course is targeted toward second-year students in environmental resources, aquatic science, water resource management, or other natural resource programs with water components.

Course modules are organized into six units. The lecture modules are linked through a series of inquiry-based field, laboratory, and computer exercises designed around current water quality management issues. This approach gives community and four-year college instructors considerable flexibility to adopt the entire curriculum or to use individual units, modules, or "labs" to fit the needs of their particular program.

Current water quality data are delivered to the curriculum Web site in partnership with an associated water management agency or university in the Pacific Northwest, the Southwest, the Southeast, the Northeast, and the Midwest. This results in a curriculum that teaches fundamental aquatic science principles and skills while addressing real-world water quality issues important to each region.

Regional college instructors and a national panel of experts are guiding the development of the curriculum to ensure its relevance to current and future needs in water resources management.

■ Expectations

Each workshop participant is expected to teach and evaluate a minimum of two curriculum modules. The stipend will be paid after course materials have been used in classrooms and completed evaluations have been returned to the project coordinators. Workshop expenses are covered.

■ Curriculum Outline

- I. **Watershed and Aquatic Science Fundamentals**
 - 1 Watershed science and society
 - 2-3 Lake ecology
 - 4-5 Stream ecology
- II. **Experimental Design**
 - 6 Problem and objective formulation
- III. **Data Collection**
 - 7 Watershed/land use surveys
 - 8-9 Lake surveys
 - 10-11 Stream surveys
 - 12 Remote sensing and Internet data sources
- IV. **Data Management**
 - 13 Quality assurance and quality control
 - 14 Data types, sources, and retrieval
 - 15 Spreadsheets and nonspatial databases
 - 16 Geographic Information Systems (GIS)
- V. **Data Analysis, Interpretation, and Presentation**
 - 17 Elementary statistics
 - 18 Applications of regression to water quality analysis
 - 19 GIS/spatial analysis
 - 20 Data visualization and presentation
 - 21 Introduction to modeling
- VI. **Management, Policy and Outreach**
 - 22 Regulations and compliance monitoring
 - 23 Watershed management
 - 24-25 Lake and stream restoration
 - 26 Community education and involvement
 - 27 Educating decision-makers



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