December 1, 2014

Office of Water Quality Water-Quality Information Note 2015.02

Subject: Training – Water-Quality Principles (QW1022) registration dates

Water-Quality Principles (QW1022-Blended) is an instructor-facilitated Web-based course developed to serve the needs of Water Science Center personnel who are or will be engaged in water-quality studies and who would benefit from review of, or foundational training in, topics covering the spectrum of the water-quality discipline. This course is offered once a year. The next class will begin on January 6 for a 5-week duration. **Registration for the course closes on December 29, 2014.**

Brief Description

This course, which is available online, provides Water Science Center personnel and other interested participants an opportunity to take water-quality principles training in a mostly self-paced format while remaining at their home base. This course complements QW1028 (Water-Quality Field Methods for Groundwater and Surface Water) and QW2034 (Quality Control Sample Design and Interpretation) by introducing the concepts, principles, and practices that underlie the development and execution of USGS water-quality studies. The course consists of on-line training modules, readings, problem sets, instructional videos, and real-time sessions with an instructor. Students are assigned an instructor who will answer questions about the course materials and to whom study assignments are sent and a final project will be presented. A course outline is attached.

Course Date and Duration

The course is self-paced within the constraints of its start and end dates: **January 6 - February 10, 2015**. Students are strongly advised to allow **a minimum of 80 to 100 hours** for course completion. **Supervisory approval is required** in order to register for the course. It is strongly recommended that the student and supervisor/manager arrange a study schedule that will accommodate completion of course work within the first 3 to 4 weeks of the course and end no later than by February 10, 2015.

Registration and Tuition

Students must register for this course through the DOI Learn system **by December 29**. The course fills up quickly and registration generally is limited to the first 20 students who register. After registering for the course in DOI Learn**,** students should e-mail GS_OED-TEL@usgs.gov to request an ID and password that will allow them access to the course through the dedicated Office of Organizational and Employee Development (OED) server. Tuition is $400 per student.

Contacts

For information about course content, contact Lisa Olsen (ldolsen@usgs.gov) or Michael Rosen (mrosen@usgs.gov). For information and support regarding registration and computer access, contact TJ Lane (303-445-4677, tjlane@usgs.gov).

WaQI Notes are archived on the Office of Water Quality web site, http://water.usgs.gov/usgs/owq/WaQI/index.html

Signed,

USGS Office of Water Quality 12/01/2014

Distribution: All WMA Employees

Water-Quality Principles: QW1022 Course Outline

Lesson	Title
1.	Introductory Concepts in Water Quality and Study Design
2.	Environmental Systems and the Hydrologic Cycle
3.	Basics of Aqueous Chemistry
4.	Governing Principles of Aqueous Systems
5.	Major Ions and Field-Measured Properties
	Part 1: Major Ions and Major-Ion Cycles
	Part 2: Field Measurements
6.	Trace Elements
7.	Reduction-Oxidation (Redox) Chemistry
8.	Environmental Organic Chemistry
	Part 1: Basics of Organic Chemistry
	Part 2: Classes and Structures of Organic Compounds and Environmental Behavior
9.	Environmental Microbiology
	Part 1: Microorganisms and Biogeochemical Cycling
	Part 2: Public Health Microbiology and Water Quality
10.	Aquatic Ecology
	Part 1: Structure, Energy, and Biota of Aquatic Ecosystems
	Part 2: Application of Ecosystem Concepts: Assessing Water and Environmental Quality
11.	Environmental Isotopes
12.	Concepts in Quality Assurance and Quality Control
13.	Interpretive Methods
14.	Case-Study Discussion and Student Presentations