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by Sharon Megdal

Next Generation of Water Experts Explore Varied Real-World Issues

We in the water world are all familiar — perhaps too familiar — with the distinction often made between whiskey and water, that one is for drinking and the other is to fight over. Another distinction often promulgated is that work is the real world and the university is not as real. Consequently it is thought that students leave the university well versed in theory but are not necessarily well grounded with exposure to real-world issues.

Whatever truth there may be to this debatable proposition I know from experience it does not generally apply to the water policy courses taught at the University of Arizona where efforts are made to integrate theory with practice. A course I teach can serve as an example of how we are covering important real-world issues; students are not just getting ivory tower perspectives.

For the past three years I have been teaching a three-unit spring graduate course titled Arizona Water Policy. Co-developed with my colleague, Kathy Jacobs, we team taught the course the first two times it was offered. With Kathy now at the helm of the Arizona Water Institute, I am now solo teaching the course.

Not confined to a single departmental cubbyhole, my course is cross-listed in four colleges and five degree programs and has attracted students with a wide variety of backgrounds and interests. Listed in the colleges of engineering, law, agriculture and life sciences, and social and behavioral sciences, the course has attracted students from a variety of programs. These programs include soil, water and environmental sciences, hydrology and water resources, planning, geography, agricultural and resource economics and arid lands studies. One student was not yet enrolled in a graduate degree program, and I allowed a senior to enroll in this graduate course.

Varied are the students and varied are the guest lecturers featured during the first ten weeks of the classes. Active in the water resource field, these authorities share with students the challenges they face in taking on real-world policy making. This semester the guest lecturers included Ken Seasholes, director of the Tucson office of the Arizona Department of Water Resources, Cliff Neal, general manager of the Central Arizona Groundwater Replenishment District, and Corporation Commissioners Kris Mayes and Bill Mundell.

To further broaden the students' experiences, Saturday field trips are conducted each year to supplement in-class learning. This year's stops included Tucson Water's (idle) Hayden-Udall Treatment Plant, two major artificial recharge sites, and the Sweetwater Wetlands. Surely by any standards these are real-life, on-the-ground experiences.

During the 10 weeks of formal class meetings, we covered a variety of important topics. In addition to covering the fundamentals of the Groundwater Management Act, we focused also on water management issues of non-AMA areas, drought and climate change, water quality regulation, private water company matters, effluent re-use, recharge and environmental needs for water.

Student participation is an important component of the learning experience. Students are required to complete a research paper on a water policy matter and then make a class presentation. Presentations fill out the remainder of the semester. To select a topic and complete a paper within a semester is not an easy assignment, especially when students are new at policy analysis.

I assisted some students by focusing their attention on topics that interest them and identifying resources to tap, particularly experts to contact for perspective and information. But the papers are theirs, and it is exciting to see how much the students are able to research in a relatively short period of time.

Students selected topics covering a wide range of important issues; the 15 students chose the following topics: effluent use in Pima county; property rights implications of groundwater use regulation; quality and usage of reclaimed water; managing groundwater in the Prescott Active Management Area; growing water demands in Mohave County; draft EIS: for Colorado River interim guidelines for lower basin shortages and coordinated operations for Lake Powell and Lake Mead; preservation and restoration of riparian areas in Arizona; Navajo water rights and Colorado River Compact challenges; protecting water resources in Native America: case studies of drought mitigation in Northern Arizona; water needs for electricity generation; Sonoran Desert Conservation Plan: water needs; the Yuma Desalting Plant: recent issues; the Lower Colorado River Multi-species Conservation Program; culture of conservation: a statewide strategy for water conservation; and the CAGRD: insurance policy, bridge or life support?

No arguing with the relevance and importance of these topics. Working with individuals both within and outside the UA, I realize that policy analysis and translation of scientific findings useful for applying to real-world decision making are increasingly expected in research. Just as it is important to introduce physical scientists to policy, it is essential to expose policy-oriented students to the challenges of real-world policy making.

I am pleased that my course is now part of a recently approved graduate Certificate in Water Policy, an option available to students in degree programs as well as students wanting to enroll only in the certificate program. Approved in March, the program aims to strengthen the water policy expertise of both graduate students and working professionals in a wide variety of fields.

I thank all those who helped train the next generation of water professionals, whether serving as guest lecturers, field trip assistants and/or resources for students working on papers; all contributed to the team effort to develop and deliver a meaningful student experience. While its focus was on water policy, I hope the class offered information and provided a policy analysis framework useful to students regardless of career paths followed. I am already looking forward to spring 2008!