

CEE/EHS 597B - Potable Water for Small and Disadvantaged Communities

Fall Semester 2017

MW 4:00 – 5:15

Description

CEE/EHS 597B: Potable Water for Small and Disadvantaged Communities. Credit 3. In this course, we will create several interdisciplinary teams of students who will work together over the semester to address problems experienced by a specific nearby public water system. Each of the instructors will present background on public water supplies from the perspective of their academic disciplines and case studies from recent experience using the Res'Eau Community Circle program as well as other similar efforts. The instructors will then work with each of the student teams to begin addressing the problems at the assigned study sites. This will include: (1) documenting the system and its challenges based on existing records at the state offices and community files; (2) identification of the key stakeholders, (3) on-site or video meetings with those key stakeholders; (4) development of a preliminary report on the system needs, problems, and solutions already proposed by the stakeholders; (5) development of a plan and report including proposals for new, alternative solutions to the identified problems. Prerequisite: consent of the instructors.

Instructors: David A. Reckhow and Emily Kumpel, CEE
Anita Milman, ECO
Tim Ford, EHS

Estimated Grading Criteria

Preliminary Report	20%	
Final Presentation	20%	
Class Participation	10%	(attendance is required)
Final Written Report	<u>50%</u>	
	100%	

Tentative Schedule

Date	Topic	Instructor/Leader
9/6	Overview of US water supply, types of systems, system sizes, demographics	Reckhow
9/11	Basics of water systems, physical components and treatment	Reckhow
9/13 (9AM)	Field Trip to Atkins WTP	Reckhow
9/18	Options for local case studies and Res'Eau community Circle approach	Reckhow
9/20	Waterborne disease risk	Ford
9/25	Wells and groundwater	Boutt
9/27	Overview of water system economics	Milman
10/2	Regulatory requirements for small systems	Reckhow
10/4	Institutions & Political challenges	Milman
10/10	Group reports on information & stakeholder needs	Student groups & faculty
10/11	Water quality in distribution systems & biofilms + sanitary surveys	Kumpel & Ford
10/16	Case studies/Assessing capacity	Kumpel
10/18	Environmental justice	Milman
10/23	Special issues when working with tribal systems	Ford
10/25	Engineering technology for small systems with special water quality challenges	Reckhow & Tobiason
10/30	Case Studies from the US & Asset Mgmt.	Reckhow & Wittbold
11/1	Group mid-term reports with conclusions	Student groups & faculty
11/6	Plant operations (meet at Northampton WTP)	David Sparks (WTP operator)
11/8	In Class work period and discussion	Student groups & faculty
11/13	The service provider perspective I	Mike Leach (MassRWA)
11/15	The service provider perspective II	Candace Balmer (RCAP)
11/27	Case Studies from Kenya	Gikonyo & Kumpel
11/29	Data flows and Information and Communication Technologies	Kumpel
12/4	Tentative: Water Safety Plans & risk assessment	Kumpel
12/6	Final Project Presentations	Student groups
12/11	Final Project Presentations	Student groups

CEE/EHS 597B Postings

- Course moodle site
- <http://www.ecs.umass.edu/cee/reckhow/courses/597B/>