EEOB 3280: Water Quality Management

Instructor
Kay Stefanik, PhD Email: stefanik.13@osu.edu Office phone: 614-688-1927

Course Logistics
One-week course held at Stone Laboratory, Put-in-Bay, Ohio, July 22nd - July 28th, 2018. Sunday check-in and orientation. Class meets Sunday evening; Monday-Friday, 8 am - 5 pm with breaks for lunch and dinner (further evening class activities may also be scheduled); and Saturday, 8 am – 12 pm.

Course Format
This one-week, 2 semester credit hours consisting of lecture, field work and laboratory time

Course Description: This course will introduce critical water quality issues throughout the world, with an emphasis on North America. The course will address questions related to water quality, impairment of aquatic ecosystems, and impacts on human health. Concepts on how to determine water quality via the examination of physical, chemical and biological indicators will be introduced. Students will develop an understanding of the causes and consequences of, as well as solutions to, diverse types of water pollution.

Course Objectives: By the end of the course, students should be able to:

1. Explain the extent and significance of issues related to water quality and quantity facing the world.
2. Discuss the impacts of human activities (via changes in chemical, biological and physical parameters) on water quality.
3. Utilize monitoring methods to assess water quality in various types of ecosystems.
4. Think critically and synthesize concepts, particularly in terms of how changes in behavior and proper management can protect water resources.
5. Debate contemporary issues related to the growing scarcity of clean water in the world.

Reference Texts:

Boyd, Claude E. 2015. *Water Quality: An introduction,* 2nd edition. Springer Science and Business Media, LLC (Free e-book available online through OSU Library)

Laws, Edward. 2000. *Aquatic pollution: An introductory text*. 3rd Edition. Wiley and Sons Inc.

Course Evaluation: Students will be evaluated on in-class assignments, daily quizzes, labs assignments, and a written final. In class assignments will consist of article discussions, calculations, and short-answer questions. Lab assignments will consist of demonstration of practical skills, participation, short-answer questions. The final exam is a 2 hour written exam that will include multiple-choice, true/false, short-answer and essay questions.

Quizzes	25%
In-class assignments	30%
Lab assignments	25%
Final exam	20%

Grading Scale: (OSU Standard)

A	93-100	C	73-76.9
A-	90-92.9	C-	70-72.9
B+	87-89.9	D+	67-69.9
B	83-86.9	D	60-66.9
B-	80-82.9	E	< 60
C+	77-79.9		

Attendance Policy
Students are expected to actively participate in all class sessions, including lectures, fieldwork and laboratory time.

Academic Misconduct
It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed: illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct http://studentlife.osu.edu/csc/.

Disability Services
Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 614-292-3307, TDD 614-292-0901; http://www.wds.ohio-state.edu/.

Tentative Course Schedule (Updated December 2017)

Day	Time	Description	Readings
Sunday		Orientation and Introduction to Stone Lab Course Introduction and **Lecture 1**: Hydrology and Water Quantity	
Monday	Morning Afternoon Evening	**Lecture 2:** Water Chemistry **Field Trip:** Lake Erie sample collect for water chemistry **Lab:** Water Chemistry and Water Quality Sonde **Quiz 1** **Lecture 3**: Ecology of Aquatic Ecosystems and Water Quality Indicators	
Tuesday	Morning Afternoon Evening	**Lecture 4:** Nutrients & Eutrophication **Lab:** Nitrogen and phosphorous **Lecture 5:** Wastewater **Field Trip:** Wastewater Treatment Plant **Quiz 2** **Lecture 6:** Urban Runoff	
Wednesday	Morning Afternoon Evening	**Field Trip:** Mainland Wetland & Streams water and water quality indicators **Quiz 3** **Lecture 7:** Aquatic Toxicology **Lecture 8:** Pesticides and Metals	
Thursday	Morning Afternoon	**Lab:** Wetland & Streams water and water quality indicators **Lecture 9:** Groundwater **Quiz 4** **Lecture 10:** Thermal Pollution and Power Plants (Guest Lecture)	

	Evening	**Research Lecture**	
Friday	Morning	**Lecture 11:** Acid and Oil Pollution **Field Trip:**	
	Afternoon	**Lecture 12**: Global Water Usage **Open Lab**	
	Evening	**Quiz 5** **Open Review**	
Saturday	Morning	**Open Review** **Final Exam**	