

Fall Semester 2019

ENR 5250.02 Wetland Field Laboratory

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PREREQUISITE: ENR 5250.01 (can be taken concurrently).

COURSE LOCATION: Olentangy River Wetland Research Park – 352 W. Dodridge Avenue (NOTE: Nov. 5, 12, 19 and 26 labs will be held in computer lab on second floor of Kottman Hall)

TIME OF CLASS: Tuesday 4:00 - 7:00 p.m.

CREDIT HOURS: 1

COURSE DESCRIPTION: Laboratory on wetland hydrology, vegetation, water quality, soils, and aquatic biota. Real-world skills in the areas of wetland delineation, assessment, monitoring, and restoration design will be emphasized.

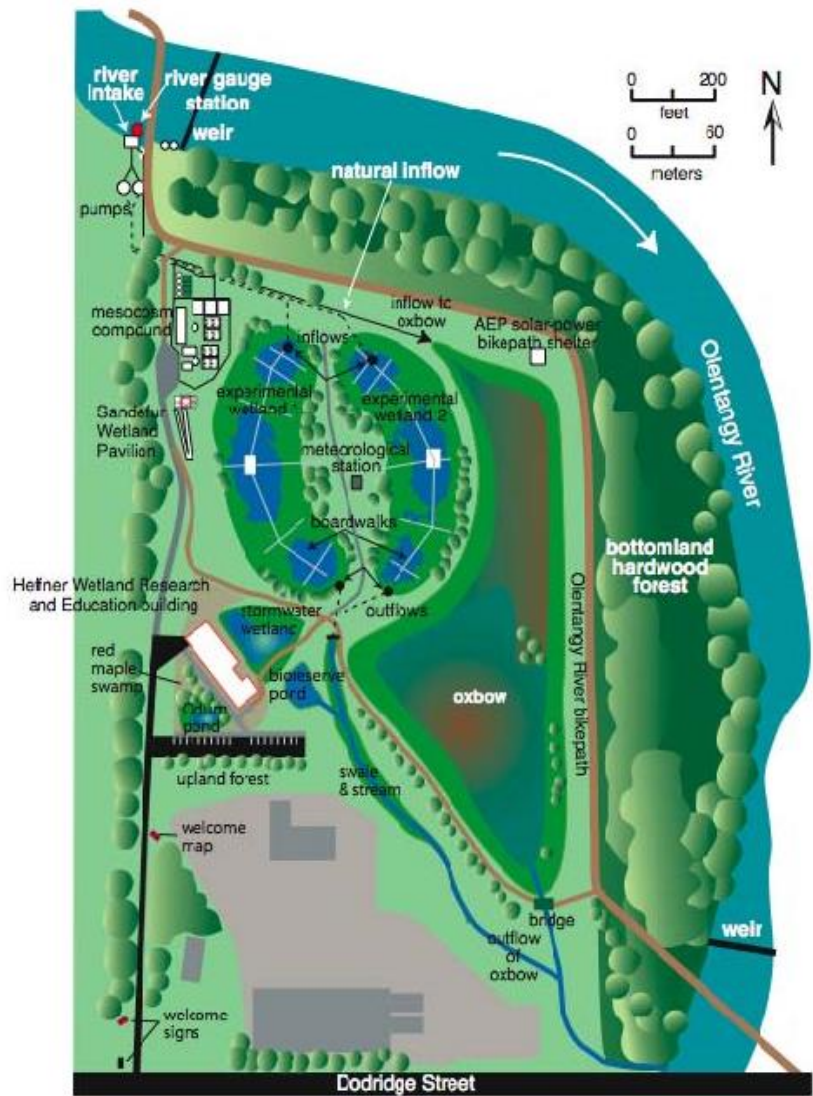
TEXT: None. Handouts and readily available online resources will be used.

COURSE OBJECTIVES: In this course, engaged and invested students will develop a solid understanding of: 1) wetlands and how they are identified and delineated; 2) wetland assessment techniques and how they are applied; 3) the importance of monitoring and how to conduct it; and 4) basic principles of planning and designing wetland restoration projects.

COURSE GRADING:	Percent of Grade
Lab Reports/Summaries (4)	80
Class Participation/Attendance	<u>20</u>
TOTAL POINTS	100

Location: The Wilma H. Schiermeier Olentangy River Wetland Research Park (ORWRP); 352 W. Dodridge Street, The Ohio State University. NOTE: The ORWRP has adequate parking if you drive. It can also be reached easily by walking or bicycle on the city Olentangy Bike Path that goes through campus along the east bank of Olentangy River.

Site Description: The Wilma H. Schiermeier Olentangy River Wetland Research Park is a 50-acre research and teaching field research site on the northern edge of the campus of The Ohio State University. There are seven separate ecosystems at the ORWRP that are used for research and teaching, including: a 13-acre bottomland hardwood forest, a 7-acre created natural flowing floodplain wetland (referred to as our “billabong” or oxbow); two 2.5-acre experimental wetlands (water is pumped into these basins), a flowing swale that drains the two experimental wetlands and its adjacent bioreserve pond, the Olentangy River pool itself (adjacent to the bottomland hardwood forest), and a stormwater wetland that receives roof runoff from the Heffner Wetland Building. There is also a mesocosm compound designed for wetland experimental work. There are 3 structures on the wetland campus: the Sandefur Wetland Pavilion for wetland observation, bird watching, and outdoor seminars; the Heffner Wetland Research and Education Building with labs, offices, conference room, and wetland library; and the AEP Bike path shelter on the city’s bike path that passes through the ORWRP. You can fill your bicycle tires using solar energy there!



Recommended attire: Wear appropriate clothing and shoes, as we will be working in and near wet muddy areas. Some waders and boots may be available.

Supplemental Resources Available:

A significant number of peer-reviewed papers, theses, and dissertations from the ORWRP are listed under **research/publications** at our ORWRP web site <http://swamp.osu.edu>. Recent papers are available from the receptionist at the Heffner Wetland Building. Theses and dissertations are in the university library.

Many of the chapters of scientific annual reports published from 1992 to 2005 are on the OSU Library D-Space web site at <https://kb.osu.edu/dspace/handle/1811/59>. A link to this web site can also be found under **research/publications** of our ORWRP web site <http://swamp.osu.edu>. Hard copies of all annual reports are also found in the library (room 130) of the Heffner Wetland Research Building and in the Life Sciences and Agricultural Libraries on campus.

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://studentaffairs.osu.edu/resource_csc.asp).

Special Needs:

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 098 Baker Hall, 93 W 12th Ave; telephone 292-3307, TDD 292-0901; <http://www.ods.ohio-state.edu>.

COURSE SCHEDULE (Subject to Change):

Date	Lecture Topic/Activity	Required Reading/Resources*
ORIENTATION		
Tuesday, Aug 20	Introduction and Site Tour	
DELINEATION (LAB REPORT FOR SECTION DUE OCT. 2)		
Tuesday, Aug 27	Vegetation Sampling and Gradients	1987 Corps Delineation Manual (provided on Carmen)
Tuesday, Sep 3	Wetland Hydrology Interpretation	
Tuesday, Sep 10	Soil Sampling and Characterization	Midwest Region Delineation Supplement (1)
Tuesday, Sep 17	Delineation Exercise	
ASSESSMENT (LAB REPORT FOR SECTION DUE OCT. 23)		
Tuesday, Sep 24	Ohio Rapid Assessment Method	ORAM Manual (2) FQAI Manual (3)
Tuesday, Oct 1	Floristic Quality Assessment; LAB 1 DUE	
Tuesday, Oct 8	Other Methods Comparison - OR - Special Field Trip	
MONITORING (LAB REPORT FOR SECTION DUE NOV. 13)		
Tuesday, Oct 15	Vegetation Index of Biotic Integrity	VIBI Manual (4) AmphIBI Manual (5)
Tuesday, Oct 22	Amphibian Index of Biotic Integrity; LAB 2 DUE	
Tuesday, Oct 29	Aquatic Invertebrate Sampling	
RESTORATION (LAB REPORT FOR SECTION DUE DEC. 5)		
Tuesday, Nov 5	Site Selection and Data Gathering	Ohio EPA Mitigation Plan Checklist (6)
Tuesday, Nov 12	Planning (Focus on Hydrology); LAB 3 DUE	
Tuesday, Nov 19	Planning (Focus on Planting)	An Introduction and User's Guide to Wetland Restoration, Creation, and Enhancement (7)
Tuesday, Nov 26	Optional Work Session (to finalize plans)	
Tuesday, Dec 3	Mitigation Plan Presentations; LAB 4 DUE	
Wednesday, Dec 10	FINAL EXAMINATION (4:00-5:45 pm)	NO FINAL IS PLANNED!

* Resource Links:

1. http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/erdc-el-tr-10-16.pdf
2. http://www.epa.ohio.gov/portals/35/401/oram50um_s.pdf
3. http://www.epa.ohio.gov/portals/35/wetlands/Ohio_FQAI.pdf
4. [http://www.epa.ohio.gov/portals/35/wetlands/standardized veg field manual v1_3rev01jul04.pdf](http://www.epa.ohio.gov/portals/35/wetlands/standardized_veg_field_manual_v1_3rev01jul04.pdf)
5. [http://www.epa.ohio.gov/portals/35/wetlands/amphibi field manual.pdf](http://www.epa.ohio.gov/portals/35/wetlands/amphibi_field_manual.pdf)
6. [http://www.epa.ohio.gov/portals/35/401/mitigation monitoring plan checklist.pdf](http://www.epa.ohio.gov/portals/35/401/mitigation_monitoring_plan_checklist.pdf)
7. https://permanent.access.gpo.gov/gpo26134/pub_wetlands_restore_guide.pdf