



**ENR 4900.01 Environment and Natural Resources Management:
Capstone Experience**

(3 credit hours)

**Water and Aquatic Science Focus
Spring 2017**

Instructor:

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Office Hours: 11:00-1:00 or by appointment

Class meeting time and place:

Tuesdays and Thursdays, 11:10am to 12:30pm, 370 Kottman Hall

COURSE DESCRIPTION

This section of the capstone course will focus on the integration of students' knowledge of social-ecological systems, natural resources management and environmental science with an emphasis on **water and aquatic issues from local to global scales**. Students will work directly with stakeholders to develop and implement projects that enhance the research, teaching, and outreach missions of the stakeholders at multiple scales. Students will work in interdisciplinary teams to create tangible outputs, including written reports, management plans, and multimedia content, culminating in a presentation of final products to stakeholders. The course will also include a number of training sessions and seminars designed to improve students' transferable skills and readiness for the job market.

COURSE GOALS

The objective of a capstone course is to provide students with an opportunity to integrate the coursework, knowledge, skills, and experiential learning gained throughout their academic career, thus allowing students to demonstrate their mastery of learning across the curriculum in preparation for further career development. The primary goal of ENR 4900.01 is therefore not to increase your knowledge of a particular topic but to give you the opportunity to implement those learned skills through the development of a team project. Team projects will allow each member to apply their unique skills and knowledge toward a common goal. Each team will develop a project in response to a critical need to meet the goals of a stakeholder whose organization focuses on aquatic issues. Students will present their final project to stakeholders at the end of the semester. In addition to the usual information collection methods (internet, textbooks, journal articles), students will be required to consult with professionals for information, feedback on proposals, and to gain experience building your professional networks.

Learning objectives:

At the end of this course students will be able to:

1. Effectively communicate a well-developed definition of coupled human-natural systems.
2. Describe examples from real world cases where human systems have influenced the resilience and sustainability of natural systems and vice versa.
3. Explain, using concrete examples, how individuals, organizations, and institutions can successfully address complex environmental and natural resource management issues at local and global scales.
4. Identify key stakeholders involved in natural resource and environmental management issues and identify ways to engage these stakeholders in planning and decision-making processes.
5. Analyze examples of human and natural system interactions and identify strategies to increase the resilience of these systems.
6. Work as a member of a team to create and communicate a shared understanding of a complex environmental or natural resource issue and strategies for addressing that issue.
7. Communicate effectively in a professional setting to promote a plan of action to address an environmental or natural resource issue.
8. Effectively communicate to potential employers your values, interests, career goals and the knowledge and skills you have to offer.

COURSE FORMAT AND EXPECTATIONS

Format: A substantial portion of this course will be student-led: this means that students are responsible for identifying and requesting the information or guidance they need to successfully achieve the objectives of the course. Therefore, our meeting times will be used to discuss current issues, work on team projects, and develop career skills using a workshop format, group and class discussion, and peer review activities. Students are expected to come to class and actively participate in class discussions and activities. A number of guest speakers will be invited to present and discuss their perspectives on environmental and natural resource issues and career paths in the field.

Readings: There is no required text book for this course. All readings will be made available online through Carmen. The readings are a critical part of this course, therefore, students are expected to come to class ready to discuss assigned readings.

Recommended Texts:

- Rieger J., Stanley J. & Traynor R. (2014) Project Planning and Management for Ecological Restoration. Washington DC, Island Press.
- Williams B.K., Szaro R.C., & Shapiro C.D. (2009) Adaptive Management: The U.S. Department of the Interior Technical Guide. Washington, DC., U.S. Department of the Interior. PDF available on class Carmen site.

Participation: Participation scores will be based on each student's attendance and participation in classroom discussions and group activities. Regular attendance is a necessary, but insufficient, condition for a passing grade in participation: reading and thinking about the assigned readings before class are critical for classroom participation. You are responsible for being aware of any changes to the syllabus and information presented and discussed in class, for materials distributed in class, and classroom exercises and assignments. Participation within your team will be evaluated both by the instructor and your team members.

***NOTE:** *I will occasionally post information for external events and indicate that attendance at these events will be worth bonus points on your Participation grade.*

Attendance: Students needing to miss class should notify me via e-mail prior to the absence. Emergency absences will be dealt with on an individual case basis. Attendance and participation represent a significant portion of the course grade and unexcused absences will be reflected in your grade.

Late assignments: No late assignment will be accepted unless prior permission has been given by the instructor, except when a documented emergency or extenuating circumstance was the cause. Failure to participate in team/group presentations will be treated similarly.

Communications: I will use Carmen and email to communicate important information to students about the class. You can communicate with me through e-mail, during class breaks, or at the end of class. Students are also strongly encouraged to schedule individual meetings with me between classes. I enjoy one-on-one conversations with students and I guarantee it will improve your chances of achieving your objectives for the class. All email correspondence should include “ENR 4900.01” in the subject line, be properly addressed, and written professionally. If you have read this far in the Syllabus, send me an email for a bonus point on your participation grade.

STUDENT EVALUATION

Group Grades		Individual Grades	
Logic Model Presentation	5%	Critiques (3 x 5%)	15%
Draft Objectives	5%	Peer Review (3 x 5%)	15%
Final Presentation	15%	Group Peer Evaluation	5%
Final Project	30%	Participation	10%

Total = 100%

Grading Scheme

93-100%	A	80-82	B-	66-69	D+
90-92	A-	77-79	C+	60-65	D
87-89	B+	73-76	C	<60	E
83-86	B	70-72	C-		

Written Assignments: Format and Submission

All written assignments are to be submitted electronically through Carmen DropBox by 11:00 pm on the date that they are due, with the course number, your last name or group name, and assignment name as the file name (e.g. “4900.01 Proposal, Biodiversity Group”). Written assignments should have 1” margins, 12 pt Times New Roman font, double line spacing, and all pages should be consecutively numbered, including the cover page. All written assignments should include a cover page that provides the names of all group members, name.#s, title of the assignment, and the date. In-text citations and reference lists should follow ASA reference style (see “Resources” folder on Carmen for ASA style details).

University Resources

The university has a variety of resources in place to support students and a safe campus environment. Students experiencing stress, sleep problems, anxiety, depression, interpersonal concerns, death of a significant other, and alcohol use or ***any event that has significantly impacted your concentration on education, work or family matters*** are encouraged to contact the Office of Student Life at 614-292-9334 (<https://studentlife.osu.edu/>) and/or Counseling and Consultation Services (CCS) at 614-292-5766 (www.ccs.osu.edu) for assistance, support, and advocacy. CCS offers a number of FREE *drop-in-when-you-are-able* workshops (<http://www.ccs.ohio-state.edu/drop-in-workshops/>). No registration is necessary, no prior appointment is needed, and workshops are open to all enrolled OSU students.

Academic Integrity

This course adheres to the Code of Student Conduct (<http://studentaffairs.osu.edu/csc/>) and policies set by the OSU Committee on Academic Misconduct (<http://oaa.osu.edu/coam.html>). All students should familiarize themselves with these materials, and act appropriately. Academic misconduct is defined by the Ohio State University's Code of Student Conduct (Section 3335-23-04) as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Academic misconduct will not be tolerated in this class. For more information, please feel free to review the "Ten Suggestions for Preserving Academic Integrity" <http://oaa.osu.edu/coamtensuggestions.html> or "Eight Cardinal Rules of Academic Integrity" <http://www.northwestern.edu/provost/students/integrity/rules.html>.

Accommodating Students' Learning

For circumstances approved by the university, we can make accommodations that facilitate your learning in this class. If you have university-approved circumstances that require special accommodations (e.g., student athlete, ROTC, Marching Band, a disability), it is your responsibility to let the instructor know at the beginning of the semester or as soon as it comes to your attention during the semester. You are also required to inform the instructor about a need to miss class prior to any excused absence. If you have a disability, then please register with the [Office for Disability Services \(ODS\)](#) as soon as possible by contacting (614) 292-3307, and let your instructor know.

Reporting Incidents of Bias

To ensure a safe learning environment, please speak to the instructor immediately if you feel that you have experienced bias (whether based on race, ethnicity, gender identity or expression, sexual orientation, religion, national origin, age or sex) within the classroom. You can also anonymously report any incidents of bias experienced on campus to the [Bias Assessment Response Team \(BART\)](#).

Career Services

The School of Environment and Natural Resources has a Career Services Office located in 210 Kottman Hall. Please call the main office at 614-292-2265 or email senr@osu.edu to schedule an appointment or use the available Express Walk-In Hours hosted every Friday 9am – 4pm. You are also encouraged to explore Hire-a-Buckeye: <http://senr.osu.edu/hireabuckeye>.

**ENR 4900.01 Environment and Natural Resources Management: Capstone Experience
Tentative Schedule of Topics and Assignments**

Updated January 2, 2017

Expect this schedule to change! Students will be notified in class or via Carmen in advance of any changes in the schedule

Week	Date	Topic	Assignments
1	01/10	Introduction to Capstone and team projects	Preference survey (in class)
	01/12	Form project teams and discuss project ideas	
2	01/17	Guest Lecture: Joe Bonnell, Logic Models	
	01/19	Reading and discussion: Coupled Social-Ecological Systems	
3	01/24	Workshop: Logic model development and presentation	Critique 1
	01/26	Case Study 1: “People of a Feather”	
4	01/31	Guest Lecture: Jessica Page, Librarian - Research Tools; Developing Objectives	
	02/02	Guest Lecture: Nicole Hafer, Muskingum Soil and Water Conservation District	Draft Objectives
5	02/07	Workshop: Professional Peer Review	
	02/09	Case Study 2: “Earth, A New Wild – Water”	Peer Review: Draft Objectives
6	02/14	Workshop: Introduction/Justification	
	02/16	Guest Lecture: TBD	
7	02/21	Reading and discussion: Millennium Ecosystem Assessment	
	02/23	Workshop: Resources and Budgets	Critique 2
8	02/28	Workshop: TBD	
	03/02	Workshop: Re-assessing Project Objectives	
9	03/07	Guest Lecture: TBD	

	03/09	Workshop: TBD	
10	03/14	Spring Break – No Class	
	03/16	Spring Break – No Class	
11	03/21	Workshop: Communicating Science	
	03/23	Guest Lecture: TBD	
12	03/28	Practice presentations	Peer Review: Presentations (in class)
	03/30	Workshop: Pulling it all together	
13	04/04	Guest Lecture: TBD	Draft Report
	04/06	Reading and discussion: Water Quality	
14	04/11	Guest Lecture: TBD	Peer Review: Draft Report
	04/13	Workshop: Polishing your final project	Critique 3
15	04/18	Poster Presentations: EPN Breakfast (7:00am) – No Class	
	04/20	Final Presentations to Class/Stakeholders	
16	04/25	*note this is a Monday – Last Day of Classes	Final Project Due