

Environmental Capstone (EEES 4970 – 3 cr.) – Spring 2015

Department of Environmental Sciences

Instructors: Dr. Hans Gottgens. BO-3007B (530-8451), johan.gottgens@utoledo.edu
Dr. Todd Crail. BO-2001E (530-4583), todd.crail@utoledo.edu

Office hours: TW 1:30-4:00pm (HG); T 11:00am-2:00pm and W 2-4pm (TC); or by
appointment

Time and Place: TR 9:30-10:45 am, BO-1014

Description:

A theme-based capstone course focused on integration, synthesis and applications of course work students have taken in their program of study, including a comprehensive assessment of their program of study. Departmental majors work in small teams to complete a practical project for a client culminating in a scope of work, team-presentation and project report. Clients might include a conservation organization, governmental agency, private industry, school, or other.

Design of the Course:

Two sessions per week that includes lectures, discussions, project work. Even if the class does not run the full period, students are expected to use this allotted time to work on their team project. Do not schedule anything else during class time. The success of team work relies heavily on the active participation of all students in collaborative activities including class time. The course is student-centered and student-directed. One of the major objectives of the capstone course is to integrate content and skills acquired in various major and related coursework and promote students to move on to careers. The course serves as one of the exit requirements for ENSC and ENST majors. It is recommended for BIOM and GEOL majors. For students with a catalog year older than F13, the course may be counted towards electives in the major.

Pre- or co-requisites: Senior standing in ENSC, ENST, GEOL, or BIOM.

Student Learning Objectives:

By the completion of this course, the student will have learned and demonstrated the ability to:

- Act as a productive contributor to a scientific team.
 - Assessed with a mid-semester questionnaire that students complete to provide a constructive assessment about their project partners.
- Articulate environmental issues on a topic of relevance to the semester project from the perspective of a stakeholder.
 - Assessed with Homework 1
- Formulate testable hypotheses in relation to environmental issues.
 - Assessed with the Scope of Work.
- Collect, manipulate, and analyze data for a scientific report.
 - Assessed with final report (as a group)
- Identify career opportunities and acquire necessary job application and interviewing skills.
 - Assessed with Homework 2

Required readings: Varies per semester based on the selected theme (e.g., water quality, environmental health, sustainability, climate change, etc.).

Course web site:

Blackboard will be used for posting of course materials, weekly individual updates by each student, drafts of project scope, development of final report or publication, etc.

Grading:

The course includes evaluations for individual assignments (weekly individual updates, homework assignments, completion of program assessment) and for group activities (project scope, final report, presentation). Homework assignments will serve as (part of) the assessment tool.

Activity	points
Weekly updates on project work; 10 @ 15 points (individual)	150
Interim homework assignments; 2 @ 100 points (individual)	200
Scope of Work (team)	150
Final report (team)	200
Final presentation (team)	200
Completion of program assessment (individual)	100
Total	1000

Grading Scale (%):

A (>93), A- (90-92), B+ (87-89), B (83-86), B- (80-82), C+ (77-79), C (73-76), C- (70-72), etc.

Project Scope:

After six weeks into the semester, each team is required to submit a scope of work for their project. This scope should demonstrate the team’s ability and qualifications to carry out and complete the proposed work and to confirm that the selected scope meets the client’s needs and satisfies the course requirements. It is a three-cornered contract: team, client and faculty mentors.

The scope of work should define the environmental problem you are addressing, identify the client you will be working with, specify the work you are doing, contain a schedule and work plan with responsibilities of each team member, and list the deliverables. It will be mutually accepted by the team, the client, and the faculty mentors. It should contain an executive summary, problem statement and rationale/need, site information, government and regulatory agencies that need to be consulted (the project may need permits), list of deliverables, milestones and schedules, and an appended statement of qualifications of team members (bios and resumes).

Academic Honesty and University Policies:

Students are expected to strictly adhere to principles of academic honesty in all aspects of this course, in accordance with policies presented in The Student Handbook and at <http://www.utoledo.edu/dl/students/dishonesty.html>.

The University is an equal opportunity educational institution. Please read the policy statement on non-discrimination on the basis of disability - Americans with Disabilities Act compliance available at www.utoledo.edu/policies/administration/diversity/pdfs/3364_50_03_Nondiscrimination_o.pdf. In addition, the University of Toledo is committed to providing equal access to education for all students. If you have a documented disability or you believe you have a disability and would like information regarding academic accommodations/adjustments in this course please contact the Student Disability Services Office (<http://www.utoledo.edu/offices/student-disability-services/>).

Collegiate Learning Assessment:

We have been asked to help with the following:

The Office of Assessment, Accreditation and Program Review The Office of the Assessment, in collaboration with the Faculty Senate, is interested in learning more about how your experience at UT has helped to shape their ability to think critically and communicate effectively. We are asking you to complete the Collegiate Learning Assessment, a 90-minute exam designed to measure communication and critical thinking skills. All responses are confidential and results will be reported in aggregate.

The exam will be administered through the Main Campus Testing Center, located in 1080 Memorial Field House between Monday, March 16 and Friday, March 27. Students may take the exam at any time during the hours listed below. In addition, please note the items to bring with you to the Testing Center. Upon arrival, simply let the staff member know that you are there to take the CLA exam.

To say “thank you” for your participation, your name will be entered in a drawing for a chance to win one of 25 vouchers that may be exchanged for your academic regalia ensemble at the UT bookstore – a \$40 value. Winners will be randomly selected from the group of those responding to the survey and will be notified by email. All participants who complete the survey will receive a 20% off coupon for one item from the University Bookstore.

Thank you in advance for your participation. Your input is important to us. If you have any questions about the survey, please contact Alana Malik, University Assessment Director, alana.malik@utoledo.edu

Main Campus Test Center Information

Location: Memorial Field House Room 1080

Hours: Mondays, Tuesdays, Fridays: 9:00am-4:00pm - all tests must be completed by close (latest time to begin CLA exam is 2:30pm)

Wednesdays and Thursdays: 9:00am-7:00pm - all tests must be completed by close (latest time to begin CLA exam is 5:30pm)

Phone: 419-530-1269

Items to bring with you/keep in mind:

- ✓ *A photo ID is required in order to take any tests.*
- ✓ *Bring your Rocket Number, UTAD username, and password.*
- ✓ *All tests must be completed by the time the test center closes.*

Course schedule:

Week	Dates	Activity	Deliverables	Readings
1	Jan 13, 15	Course overview, introduction		
2	Jan 20, 22	Team formation, project choices		Review papers for semester theme
3	Jan 27, 29	Field trip to location relevant to project topic	Outline scope of work	Targeted readings per team
4	Feb 3, 5	Discussion/presentation on targeted readings (team-led)	Draft scope of work due, incl. role for each team member.	Targeted readings per team
5	Feb 10, 12	Careers in the environmental field (guest presentations)	Critical analysis of team project topic (individual homework #1)	Targeted team readings per team
6	Feb 17, 19	Discussion/presentation on targeted readings (team-led)	Completed scope of work due to client	Readings on jobs, applications, interviews
7	Feb 24, 26	Work on project (some in-class exercises)	Job application portfolio (individual homework #2)	Targeted readings per team
8	Mar 3, 5	Job applications/mock interviews		
9	Mar 17, 19	Project troubleshooting (brief team presentations and Q&A)	Outline of final report	Targeted readings per team
10	Mar 24, 26	Work on project (some in-class exercises)		Targeted readings per team
11	Mar 31 Apr 2	Work on final presentations in class	Draft final report due to faculty mentors	Targeted readings per team
12	Apr 7, 9	Work on project (some in-class exercises)	Outline of report presentations	
13	Apr 14, 16	Work on draft final report edits	Final reports due to clients and faculty mentors	
14	Apr 21, 23	Public project presentations with client/audience	Presentations	
15	Apr 28	Public project presentations with client/audience	Presentations	
15	Apr 30	Program assessment and course evaluation	Completed exit surveys	