

Fall 2010

ENV Engineering Engagement

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Engineering Engagement: Beyond the lab and the drawing board
Department of Civil and Environmental Engineering
Syllabus
Professor Maya A. Trotz
Fall 2010

Course Description: Many engineering and science related projects around the world require public approval, but how is the public engaged and what models exist for ensuring that engagement is truly fair or that the public is making informed decisions based on an understanding of the problem? This is a criteria for many World Bank projects in developing countries where “community participation” is required, but where less attention is paid to the level or quality of community participation which in many cases ends up being an information/infomercial session for local communities. How is this done locally, on campus or in surrounding communities? What does a truly informed community look like and what mechanisms exist for their views to be incorporated into decision-making processes? To answer some of these questions requires us to understand the decision-making and management processes that take place on local levels all the way up to national and sometimes global levels. This class takes a stormwater pond example in a local community, East Tampa, and looks at decisions that affect it’s functioning, where they are made and how that information is communicated locally. The class builds on, and works with an existing project called Water Awareness Research and Education in East Tampa aimed at raising environmental awareness in East Tampa. Phrased in terms of 5 pillars of sustainability (environmental, social, economic, cultural, political), the class will ask students to focus more on the pillars of cultural and political which are usually absent from engineering disciplines.

- Objectives:** Upon completion of this course the student should be able to:
- 1) Define stormwater ponds and various regulations that apply to their existence.
 - 2) Discuss the role of stormwater ponds and their relation to local communities.
 - 3) Identify the various agencies responsible for stormwater management and show how their decisions are integrated into activities of people within East Tampa.
 - 4) Discuss ways in which activities of people within East Tampa influence stormwater management decisions.
 - 5) Demonstrate how the five pillars of sustainability contribute to good engineering results.
 - 6) Describe weekly activities done in the field and communicate that experience through online blogs and reflective essays.
 - 7) Communicate through professional quality presentations, project reports and community reports.
 - 8) Work in teams on various assignments including a final project report and presentation that reflects the work done by all members of the class.

Pre/co-Requisites: Introduction to environmental engineering and/or environmental engineering laboratory

Credit Hours: 3 units

Dates / Times / August 23rd to December 10. In-class discussion and Service learning activity.

Location/ Mandatory field based service learning activity in East Tampa requiring 15 hours of your time in

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Format: addition to in class time. These 15 hours are accounted for in the design of other project deliverables.

Attendance / Participation: Mandatory and graded.

Reference Text: J. R. Mihelcic and J. B. Zimmerman (2010) "Environmental Engineering Fundamentals, Sustainability, Design." John Wiley & Sons, NY.

Instructor Information

Name: Maya Trotz, PhD
Office: ENG 220
Office Hours: T 3-5 pm, W 10-11:30 am
Email: matrotz@eng.usf.edu

Community Partner Information:

Ms. Evangeline Best
East Tampa Community Revitalization Partnership

Course Outline: Week of August 24
(*Tentative*)

- Overview of class
- Sustainability concepts
- Movie: Blue gold-worldwaterwars <http://www.bluegold-worldwaterwars.com/>
- Fill in approval forms for schools

Week of September 7

- Water chemistry and water resources
- Matching with classes/teachers

Week of September 14

- Florida: where does our water come from and where does it go?
- Movie: Water 101: An overview of water resource issues in west-central Florida.

Week of September 21

- Field assignment (week 1)
- Bus tour of East Tampa given by Ms. Evangeline Best

Week of September 28

- Field assignment (week 2)
- Florida: where does our water come from and where does it go? Tools of the trade.
- Movie: Bringing Back the Bay

Week of October 5

- Field assignment (week 3)
- Stormwater ponds: what are they and how do they work?

Week of October 12

- Field assignment (week 4)
- Stormwater ponds and water quality testing.

Week of October 19

- Field assignment (week 5)
- Florida: Water management from communities to the national level – the case of the stormwater pond. Introduction to the East Tampa story – community experience.
- Guest lecture Ms. Evangeline Best

Week of October 26

- Field assignment (week 6)
- Florida: Water management from communities to the national level – the case of the stormwater pond. The East Tampa story – City of Tampa involvement.
- Guest lecture: City of Tampa representative.

Week of November 2

- Field assignment (week 7)
- Florida: Water management from communities to the national level – the case of the stormwater pond: The East Tampa story – State involvement.
- Guest lecture: SWFWMD representative.

Week of November 9

- Field assignment (week 8)
- Florida: Water management from communities to the national level – the case of the stormwater pond: The East Tampa story – Federal laws & global context.

Week of November 16

- Field assignment (week 9)
- Stormwater ponds and low impact design

Week of November 23

- Field assignment (week 10)
- Community report due

Week of December 3

- Final class presentation
- Final report due

Week of December 3

- Student portfolio due

**Reading
Materials:**

Reading materials will be provided via blackboard, library course reserve, via internet links, or as class handouts (at the discretion of the instructor).

Grading:

Points	Activity	% of final grade
100	Class participation	10
150	Service learning field hours	10
100	Assignments	10
150	Fieldwork journal blog	15
150	Deliverable to community partner	15
150	Project report	15
50	In class project presentation	5
200	Student portfolio	20
1050	Total	100

Types of
 Assessments:

Class participation: All students are expected to regularly participate in the class discussions and to be present at every class session. A mandatory bus tour of East Tampa is included as a part of the class schedule in week 2 and everyone is expected to attend.

Service learning field hours: All students are expected to complete 15 hours of service learning field hours. This will include attendance at a minimum of 3 meetings of the East Tampa Community Revitalization Partnership (ETCRP) or one its subcommittees. Each hour spent in the field is worth 10 points. Although there are 15 weeks in the semester, you will not begin your field hours until week 4. You are expected to spend at least one hour per week in the field between weeks 4 and week 14. Under the WARE-EAST TAMPA (Water Awareness Research and Education in East Tampa) project, I have established relationships with various elementary to middle schools in East Tampa around stormwater ponds. Your additional field hours will include working in one of those classrooms over the semester. Matching with classrooms will be done during week 2 of the project. You will be required to have your fingerprints taken and will have to fill out a student volunteer form to be approved by the school.

Assignments: There will be 10 graded assignments over the course of the semester, each worth 10 points. You will work in groups of two on these assignments with one person being in charge of only 5. These assignments will be based on class lectures, readings and research that you do on your own.

Safe-Assignment and other plagiarism checking methods may be used to ensure academic honesty.

Fieldwork journal blog: You will be asked to use the blog tool in blackboard. Each week you will post your field notes and class experience, including any important information/contacts you discovered or used. These are due by Monday at 8 am to be considered for a grade. This is due for all 15 weeks of the class with each blog worth 10 points.

Deliverable to community partner: You will have to prepare a product to be given to the community partner (teacher/students) with whom you worked that summarizes your own findings as a part of the class. It is likely that we will present this at one of the community meetings and samples from your individual reports will be used for this presentation.

Project report: The class project will be an overall report summarizing results from the entire class. The goal of the class was to understand how rules get set for controlling pollutant levels in stormwater ponds and how that process involves people at various levels of the decision making

process. Specific to this class are how that information is translated to various groups in a local community. Each student is expected to enthusiastically and professionally contribute to the team project through research, writing, and presentation. Rubrics for grading of this project report will be distributed during the semester.

In class presentation: At the end of the semester each student will make a class presentation on their in field experience and the material included in their project report. The presentation can also include your reflections on student learning throughout the class.

Student portfolio: This is a professional report capturing your work in this class and can be used for future job interviews to showcase your knowledge and organizational, creative and written skills. The portfolio must contain:

- (1) A weekly log of your activities (your fieldwork journal blog)
- (2) A written evaluation essay providing self-assessment of how effectively you met the learning objectives of the course

The portfolio can also include photographs of your activities, products developed by you (community handouts, community report, web postings made by you about topics related to the class, class assignments etc.). You can use your graded assignments (or improvements of them) and any other material submitted during the semester as a part of your portfolio. You can also link your portfolio to online websites that you develop as a part of this class if you wish.

Late and Make-up Policies:

Students are required to participate in the field research trip throughout the semester.

Students are also expected to turn in assignments on time and to be present to participate in class discussions. If you miss a class or anticipate missing a class, you should contact the professor ahead of time to make arrangements for making up for a missed period.

Other Classroom and University Policies:

Academic Dishonesty and Disruption of the Academic Process:

Academic dishonesty or disruption of the academic process in any form, including plagiarism, will not be tolerated. See the following for a discussion of forms and consequences, at <http://www.grad.usf.edu/newsite/catalog/main.asp> and <http://www.cte.usf.edu/plagiarism/index.html>. A tutorial on plagiarism can be found at <http://www.cte.usf.edu/plagiarism/plag.html>

Permission to Use Lectures:

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Lectures may not be recorded without prior permission of the instructor. All unauthorized recordings of class are prohibited. Recordings that accommodate individual student needs must be approved in advance and may be used for personal use during the semester only; redistribution is prohibited.

Americans with Disabilities Act (ADA):

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. If you have a disability requiring an accommodation, you should contact the USF Office of Academic

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Support and Accommodations for Students with Disabilities to apply for services. Services offered are discussed at <http://www.asasd.usf.edu/index.htm>

Student Handbook: <http://www.sa.usf.edu/handbook/>

Electronic Equipment Usage: Electronic equipment, including computers, cell phones, personal digital assistants, etc. must be turned off prior to entering the classroom. This equipment is disruptive to the class and distracting to students and the instructor.

Additional Resources for Students:

Library Resources: USF Library Resources and Services: <http://www.lib.usf.edu/>

Shimberg Health Sciences Library: <http://hsc.usf.edu/library/>