Spring Semester, 2011
ENVS 410-301: Green City, Clean Water:

Using leadership, science and politics to Create the Sustainable American City

Please Note: This is an Academically Based Community Service (ABCS) course involving hands-on, real-world problem solving. Students will learn the principals of Urban Water Sustainability and take this knowledge to the community by working with urban farmers, community gardeners, schools, non-profit groups to help change the world – or at least a little piece of Philadelphia.

WEEK 1: Green City, Clean Water Concepts and Course Requirements (1/18)

Introductions, Course Background and Expectations, Discussion of Community Service

Lecture: Green City, Clean Water: How the solutions to modern urban water issues can be the catalyst for creating America’s greenest city. Connecting land and water management issues.

Homework Assignment #1 on environmental stressors (due 1/25)

WEEK 2: The 21st Century Urban Stream (1/25)

Class Discussions: (based on homework) Environmental Stressors that degrade water quality and environmental health in an urban stream. Is it safe to swim in the creek? Eat the fish?


Class Discussion: The value of stream access, trails and recreation “fishable, swimmable, safe, attractive and accessible”

Lecture B: The science of Urban Stream Hydrology and Biology – Conducting a physical and biological forensic analysis on a stream; prioritizing improvements; Using fluvial geomorphology concepts to fix the stream. What will it cost?

Class Discussion: What is the role of Wetlands creation; Riparian buffers and flood plains
Homework Assignment #2 on the impact of climate change on the future of the urban stream and its rehabilitation (due 2/1)

WEEK 3: The True Value of Water and a Changing the Public View (2/1)

Lecture A: Water economics. Changing the current paradigms. Triple bottom line economics.

Class Discussion: Does water policy influence land policy or vice versa?

Lecture B: Communicating water quality to the public. Making the case: RIVERCAST.

Homework Assignment #3 on Triple Bottom Line Analysis (due 2/8)

WEEK 4: The history of water supply and sanitation in Philadelphia (FIELD) (2/8)

Travel by van to the Fairmount Waterworks Interpretive Center (IC)

Tour, Lecture and Movie: Linking the history of water supply and sanitation in Philadelphia to the story of Philadelphia’s growth into its current urban form

Class Discussion (based on homework): Triple Bottom Line Analyses

Class Discussion: First Thoughts - FINAL PROJECT – COMMUNITY SERVICE

WEEK 5: Urban Planning and Zoning for Sustainability (2/15)

Lecture A: Green Streets, Homes, Alleys, Schools, Commerce and Business

Class Discussion: How do we involve community?

Guest Lecture B: An introduction to the role of the non-profit organization

Homework Assignment #4 on Non-profit organizations (due 3/23/10)

Week 6: Environmental stewardship in the urban community: Creating the connection between self and greater community (2/22)

Class Discussion: The Model Neighborhoods Approach to Building Community Support
Guest Lecture A: Working in the Latino Communities of Philadelphia – Gaining support for sustainability

Guest Lecture B: Dennis Lee, Director of Project NEAT (invited) - Providing support in the African-American community - Lessons to be learned

Class Discussion: Green jobs and workforce development opportunities

Week 7: The world of the environmental nonprofit organization (3/1)

Lecture A: The Role of the nonprofit organization in environmental stewardship

Class Discussion (based on homework): Sharing our findings on your non-profit case study. Why are there so many NPOs? Should the government be doing this?

Week 8: SPRING BREAK – NO CLASS (3/8)

Week 9: The importance of infrastructure (FIELD) (3/15)

Travel by van to the Southwest Water Pollution Control Plant (WPCP)

Facility Tour.

Class Discussion: FINAL PROJECT - COMMUNITY SERVICE

Week 10: Class Hours for one-on-one discussion of student projects (3/22)

Week 11: Green Infrastructure Planned and Implemented in the Penn Community (FIELD) (3/29)

Tour of Penn Campus, Penn Alexander School, and Clark Park - Stormwater and Greening Projects - with Dan Garofolo, Penn’s Sustainability Director.

Week 12: Cobbs Creek Watershed Field Trip (4/5)

Travel by van to Cobbs Creek Environmental Education Center and various wetland, and creek restoration sites.

Weeks 13 and 14: Student Final Reports and Presentations (4/12 and 4/19)
Week 15: - Final Observations – Working with Community to improve our plight (4/26)

Class Discussion: Can Philadelphia become America’s greenest, most sustainable city? What will it take? Are we on the right path? Is failure an option?

Class Discussion: Can citizens be made more responsible? Should they?