

Description of course revisions for Chesapeake Project

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I plan to teach AREC 455: Economics of Land Use in the Fall 2012 semester. This document describes several ways that I have incorporated issues of sustainability into the new course structure. I was formerly a professor at Texas A&M University and taught a similar course entitled AGEC 422: Land Economics. Attached is the old syllabus for AGEC 422 from Texas A&M taught in Spring 2011. Also attached is the new syllabus for AREC 455 to be taught at the University of Maryland in Fall 2012. Please see the yellow highlighted sections for course revisions related to issues about sustainability. Specifically, there are three modules on the following sustainability themes: smart-growth policies and residential development; land use, water quality, and the Chesapeake Bay; and green buildings and Leadership in Energy and Environmental Design (LEED) certification.

The State of Maryland has been a leader in the development of smart-growth policies to reduce urban sprawl. We will learn about the diverse array of land-use policies that Maryland has developed to combat sprawl. Specifically, we will read and discuss a paper by Gerritt Knaap, who is the director for the National Center for Smart Growth, located on the University of Maryland campus. We will also read and discuss papers about transferable development rights (McConnell, Kopits, and Walls 2006), urban growth boundaries (Newburn and Berck 2011), and hedonic methods to measure impacts on residential land values from water quality degradation in the Chesapeake Bay (Leggett and Bockstael 2000). I have extensive expertise and research on modeling the impact of land-use regulations on residential development. Hence, I will incorporate some of my applied research from Maryland and elsewhere into the course.

The Environmental Protection Agency has recently implemented a total maximum daily load (TMDL) for the Chesapeake Bay to reduce the water quality impact of nutrients and sediment. I have developed a group project as a homework assignment (see attached Homework Assignment #6). Students will be assigned a tributary in Maryland and will have to write a report on the watershed implementation plan (WIP). Students will gain practical policy knowledge since local governments are currently still developing WIPs. I also have expertise and research experience on the link between land use, water quality and the Chesapeake Bay. I have currently involved in a large multidisciplinary project on Water Sustainability and Climate for the Baltimore Metro Region and the Chesapeake Bay, which was awarded \$5 million from the National Science Foundation (see attached NSF grant proposal). This multidisciplinary team involves four disciplines: land economics, groundwater-surface water modeling, biogeochemistry, and regional climate modeling. I will incorporate the ongoing research and policy implications from this multidisciplinary research into the new course.

Lastly, we will cover topics related to green buildings and Leadership in Energy and Environmental Design (LEED) certification. I have a guest speaker who has worked in the green building industry for over 10 years. I also have a very good documentary that features green building in New York City and China. I have also included a homework assignment, where students have to write a report on some aspect of green building (see attached Homework #5).