TTP 289A-002
(CRN81927)
Energy Modeling for Policy Analysis

Quarter: Winter 2014
When: T/Th: 2:10-4 pm
Instructor: Sonia Yeh (slyeh@ucdavis.edu)
Faculty Member, Graduate Group in Transportation Technology and Policy
Eligibility: Graduate level
Classroom: 125 Wellman
Number of Units: 4
Grading: Letter graded

Christopher Yang (ccyang@ucdavis.edu), Faculty Member of Graduate Group in Transportation Technology and Policy, will also provide a portion of the lectures, specifically on modeling energy infrastructure and electricity markets

Course Description:
The course will familiarize students with building energy models for policy analysis. We will explore several facets of energy systems modeling including supply and demand, energy technologies, emissions, technological change and diffusion, scenario analysis, and uncertainty. We will also introduce techniques for policy analysis. The students will learn to integrate multi-disciplinary knowledge, build analytical tools, conduct alternative scenario analysis, and carry out sensitivity and uncertainty analysis. The students will be introduced to several genres of energy models and will be required to complete a number of model building exercises using Excel, other tools introduced in class, or developed by students based on his/her own skills (advanced knowledge of computer programming is not a requisite for this class). Students will become familiar with forecasting energy use and demands, gain experience of building techno-economic models, and develop skills for policy analysis. Assignments will draw on real-life policy problems in addressing environmental and energy challenges.

Prerequisites: MAT 22A (Linear Algebra), ECI 114 (Prob. and Statistics), and familiarity with Excel functions are required; Prior experience with programming is not required but desirable.