

Quantitative Methods of Policy Analysis

ENVS 5120

University of Colorado

Spring Semester 2011

Roger A. Pielke, Jr., Professor

Course Homepage:

http://sciencepolicy.colorado.edu/students/envs_5120



Class Location: Econ 16

Class time: Mondays 1:00-3:30

Office Hours: Mondays, 10:00-12:30 and by appointment

Location: CIRES Center for Science and Technology Policy, 1333 Grandview Ave.

http://sciencepolicy.colorado.edu/center_info/find_us.html

Phone: 303-735-3940 (no voice mail)

email: pielke@colorado.edu

Overview and Purpose of the Course

The goal of this course is to introduce graduate students in engineering, environmental studies, science and technology policy, and other fields to the quantitative tools used for decision-making under uncertainty in policy analysis and technology management. Students will learn how to apply these methods and will be able to select analytical tools that are appropriate for a given situation. Students will also be able to critically evaluate the results of analyses performed with each method.

Requirements of the Course

Course Format

The course follows a lecture format, but there will be time for discussion as well. The readings in the course are important and you are expected to have done the readings in advance of the course for which they are assigned. The formal requirements of the course include periodic

assignments, a mid-term exam, and a final exam.

Readings

The course text is:

D.K. Gupta, 2011. **Analyzing Public Policy: Concepts, Tools and Techniques**, Congressional Quarterly Press, Washington, DC.

There will be additional required readings as well assigned throughout the term.

Grading

Your grade will be determined as follows:

One Pagers	10%
Periodic Assignments	20%
Mid-Term Exam	30%
Final Exam	40%

Requirements of the Course

Weekly Email One Pagers

Every week you are expected to turn in a one-page essay. We have established a list-serv for the course: envs5120@lists.colorado.edu. Details will be provided in class.

A secondary purpose is to ensure that you have an opportunity to provide me with feedback on the class and your progress/satisfaction in the course.

Individual and Group Assignments

Periodically throughout the semester you will be responsible for individual and group assignments related to the week's readings and topic. These will be discussed as the semester progresses.

University Syllabus Statements

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs may be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, and www.Colorado.EDU/disabilityservices

Campus policy regarding religious observances requires that faculty make every effort to reasonably and fairly deal with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, {{insert your procedures here}} See full details at http://www.colorado.edu/policies/fac_relig.html

Students and faculty each have responsibility for maintaining an appropriate learning environment. Students who fail to adhere to such behavioral standards may be subject to discipline. Faculty have the professional responsibility to treat all students with understanding, dignity and respect, to guide classroom discussion and to set reasonable limits on the manner in which they and their students express opinions. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records. See polices at

<http://www.colorado.edu/policies/classbehavior.html> and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

The University of Colorado at Boulder policy on Discrimination and Harassment (<http://www.colorado.edu/policies/discrimination.html>), the University of Colorado policy on Sexual Harassment and the University of Colorado policy on Amorous Relationships applies to all students, staff and faculty. Any student, staff or faculty member who believes s/he has been the subject of discrimination or harassment based upon race, color, national origin, sex, age, disability, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Judicial Affairs at 303-492-5550. Information about the ODH and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at <http://www.colorado.edu/odh>

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council

(honor@colorado.edu; 303-725-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at <http://www.colorado.edu/policies/honor.html> and at <http://www.colorado.edu/academics/honorcode/>.

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Tentative Schedule and Readings

Week 1: 01-10-11 **Introductions**
Overview of the Course
Initial discussion – Does being rich make you happy?

Week 2: 01-17-11 **NO CLASS -- MLK DAY**

Week 3: 01-24-11 **Context**

Gupta Chapters 1-5 and 15

Week 4: 01-31-11 **Budgeting Unit #1**

The President's Budget:

<http://www.whitehouse.gov/omb/>

Additional general readings on the budget:

U.S. House of Representatives, Committee on the Budget, 1995. The Congressional Budget Process: An Explanation, 105-67.

GAO, 1996: Managing for Results: Key Steps and Challenges in Implementing GPRA in Science Agencies, GAO/T-GGD/RCED-96-214 z. Washington, DC: US GPO.

Budget-related WWW sites:

<http://www.cbo.gov/>

<http://www.whitehouse.gov/omb/>

<http://www.senate.gov/~budget/democratic/budprocess.html>

<http://www.whitehouse.gov/omb/budget/fy2010/>

<http://www.house.gov/budget/>

http://www.house.gov/budget_democrats/

<http://www.senate.gov/~budget/democratic>

<http://www.senate.gov/~budget/republican>

Week 5: 02-07-11 Budgeting Unit #2

Readings TBA

Week 6: 02-14-11 In-Class Budget Assignment

Appropriations Exercise

Week 7: 02-21-11 Probability and Statistics Unit #1

Gupta Chapters 6, 7, 8

Week 8: 02-28-11 Probability and Statistics Unit #2

Week 9: 03-07-11 Mid-Term Exam

Week 10: 03-14-11 Cost Benefit Analysis Unit #1

Gupta Chapter 14

In Class Case Study: The value of education

<http://www.nytimes.com/2009/09/27/magazine/27fob-wwln-t.html>
<http://www.npr.org/templates/story/story.php?storyId=112432364>

An optional, alternative perspective:

Adler, M. D. and E.A. Posner, 1999. "Rethinking Cost-Benefit Analysis", University of Chicago Law School, John M. Olin Law & Economics Working Paper No. 72, April.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=164902

Week 11: 03-21-11 NO CLASS Spring Break

Week 12: 03-28-11 Decision Analysis Unit #1

Gupta 13 (and 14 again)

Week 13: 04-04-11 Decision Analysis Unit #2

Week 14: 04-11-11 Projections and Predictions Unit #1

Gupta 9, 10, 11 and 12

Week 15: 04-18-11 Projections and Predictions Unit #2

Week 16: 04-25-11 Course Wrap Up

FINAL EXAM: 04-30-11 1:30-4:00 PM