

# ENVS 5120

## Quantitative Methods of Policy Analysis

Spring 2013  
Lecture: M/W 5:00-6:15pm  
Class: Muenzinger D144

Lecturer: Jason M. Vogel

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Course website: [http://sciencepolicy.colorado.edu/students/envs\\_5120/](http://sciencepolicy.colorado.edu/students/envs_5120/)

### Course Description & Objectives:

This is a graduate level course in the Environmental Studies Program at the University of Colorado. This seminar will provide students with practical knowledge and skill sets that are commonly used in the professional world of policymaking and policy analysis. Some of this practical knowledge includes: how governments and other key participants in the policy process are structured, which mandates drive federal policy analysis, basic economic principles, and government budgeting. Some of these practical skill sets include: basic research design, cost-benefit analysis, risk assessment, and survey design and sampling. A crosscutting emphasis throughout the course will be on increasing the economy and effectiveness of students' writing, speaking, and presenting of technical information to decision makers.

Upon completion of this course, students should communicate more thoughtfully and efficiently, will be more knowledgeable about practical policy analysis methods that can serve them in a variety of professional roles, and should understand the basic advantages and flaws of different methodologies commonly used in professional policy practice.

### Course Format and Organization:

The course will mix a lecture and seminar format with significant time each period for class discussion. The readings for the class are important and you are expected to have done all of the readings for each day prior to that class period. Based on those readings, you will be expected to come to each class with at least two questions for stimulating discussion – which you will turn in each class period. All readings will be posted on the class website as a adobe acrobat file or a URL, except for the course textbooks:

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

Strunk, William, Jr. and E.B. White. 2000. *The Elements of Style*. Longman: New York.

The formal course requirements include periodic assignments, a mid-term exam, class participation, and a final exam. Your grade will be determined as follows: 20% periodic assignments, 20% mid-term exam, 30% in class participation, and 30% final exam.

## Disability:

If you qualify for accommodations because of a disability, please submit a letter from Disability Services in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Willard 322, <http://www.colorado.edu/disabilityservices>

## Religious Observances:

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. You must contact me at least one week prior to any assignment due and at least two week prior to any scheduled exam to work out details. See full details on the campus policy at [http://www.colorado.edu/policies/fac\\_relig.html](http://www.colorado.edu/policies/fac_relig.html)

## Course Schedule:

DATE	TOPIC	READINGS and ASSIGNMENTS
Jan 14 Mon	Introduction to course	Course syllabus Hammond, J. et al., 1998. <i>Thinking about the hidden traps in decision making</i> . Harvard Business Review.
Jan 16 Wed	Decision Methods Survey	WUCA 2010 <a href="http://www.wucaonline.org/assets/pdf/pubs_whitepaper_012110.pdf">http://www.wucaonline.org/assets/pdf/pubs_whitepaper_012110.pdf</a> <b>Handout Assignment #1</b>
Jan 21 Mon	NO CLASS	
Jan 23 Wed	TBD – remote class?	
Jan 28 Mon	Vulnerability Analyses in the Water Sector	Vogel and Smith 2010 <a href="http://water.epa.gov/scitech/climatechange/upload/Climate-Change-Vulnerability-Assessments-Sept-2010.pdf">http://water.epa.gov/scitech/climatechange/upload/Climate-Change-Vulnerability-Assessments-Sept-2010.pdf</a> Vogel et al 2011 <a href="http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=501095">http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=501095</a>

Jan 30 Wed	Research Design	Gupta Ch.5 Selections from: Eugene Bardach. 2000. <i>A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving</i> <b>Handout Assignment #2</b>
Feb 4 Mon	NO CLASS	
Feb 6 Wed	Communication: writing	Strunk & White (yes the entire book, but especially Ch 2) The Modern Essay Paradigm The Modern Essay Paradigm Worksheet Young and Quinn 'The Policy Brief' <a href="http://www.policy.hu/ipf/fel-pubs/samples/PolicyBrief-described.pdf">http://www.policy.hu/ipf/fel-pubs/samples/PolicyBrief-described.pdf</a>
Feb 11 Mon	Communication: graphics	Gupta Ch.9 Selections from E.R. Tufte, 2001. <i>The Visual Display of Quantitative Information</i> . Graphic Press: Cheshire, Connecticut <b>Handout Assignment #3</b>
Feb 13 Wed	Government structure	Selections from W.G. Wells. 1996. <i>Working With Congress</i> . American Association for the Advancement of Science: New York.
Feb 18 Mon	NO CLASS	
Feb 20 Wed	Budget process	M. Weinberg. 2000. <i>Understanding the Federal Budget Process</i> . Quick Guide for Community Forestry Activists. American Forests: Washington, D.C. <a href="http://www.communitiescommittee.org/pdfs/fed_budget.pdf">http://www.communitiescommittee.org/pdfs/fed_budget.pdf</a> M. Enzer. 1999. <i>The Federal Appropriations Process</i> . Quick Guide for Community Forestry Activists. American Forests: Washington, D.C. <a href="http://www.communitiescommittee.org/pdfs/fed_approps.pdf">http://www.communitiescommittee.org/pdfs/fed_approps.pdf</a>
Feb 25 Mon	More budgeting	Selections from A. Wildavsky and N. Caiden. 2004. <i>The New Politics of the Budgetary Process</i> . Pearson Longman: New York.
Feb 27 Wed	Basic statistics	Gupta Ch.6 Selections from <i>Essential Statistics for Public Managers and Policy Analysts</i> Chapters 1, 2, 3, 6, 7 <b>Handout Assignment #4</b>
Mar 4 Mon	More basic statistics	Selections from <i>Essential Statistics for Public Managers and Policy Analysts</i> Chapters 9, 11, 12
Mar 6 Wed	<b>MIDTERM EXAM</b>	
Mar 11 Mon	Basic economic principles	Gupta Ch.3 Selections from M. Friedman. 1966. <i>Essays in Positive Economics</i> . Phoenix Books: Chicago.

Mar 13 Wed	Cost-benefit analysis: fundamentals	Gupta Ch.14 Selections from D.N. Ammons. 2009. <i>Tools for Decision Making: A Practical Guide for Local Government</i> . CQ Press: Washington, D.C.
Mar 18 Mon	Cost-benefit analysis: discounting and valuation of non-market goods	Treasury Board of Canada Secretariat. 2007. <i>Canadian Cost-Benefit Analysis Guide: Regulatory Proposals</i> . Stratus Essay <b>Handout Assignment #5</b>
Mar 20 Wed	Cost-benefit analysis: triple bottom line	Stratus Consulting 2009 – Philadelphia case study <b>TBD – possible guest speaker</b>
Mar 25 Mon	<b>SPRING BREAK!!!</b>	Go have fun!
Mar 27 Wed	<b>SPRING BREAK!!!</b>	Go have fun!
Apr 1 Mon	Regulatory process	OMB Watch. <i>Background on the Rulemaking Process</i> . Washington, D.C. OMB Watch. <i>Flowchart of Notice-and-Comment Rulemaking</i> . Washington, D.C. <b>Handout Assignment #6</b>
Apr 3 Wed	Policy analysis regulations	Selections from OMB Watch website.
Apr 8 Mon	Risk analysis: fundamentals	M. Saner. 2005. <i>Information Brief on International Risk Management: To Support the Discussion on the Government Directive on Risk Management</i> . Institute on Governance: Ottawa. <b>Handout Assignment #7</b>
Apr 10 Wed	Risk analysis: climate change examples	UKCIP 2003 Broadleaf Capital International and Marsden Jacob Associates. 2006. <i>Climate Change Impacts and Risk Management: A Guide for Business and Government</i> . Australian Greenhouse Office: Canberra
Apr 15 Mon	GIS and Excel Modeling	<b>TBD – possible guest speaker</b> GeoSpatial Revolution: <a href="http://geospatialrevolution.psu.edu/episode1">http://geospatialrevolution.psu.edu/episode1</a>
Apr 17 Wed	Decision trees and game theory	Gupta Ch.13
Apr 22 Mon	Survey design and sampling	Gupta Ch.8 E. Taylor-Powell. 1998. <i>Sampling</i> . University of Wisconsin Cooperative Extension. <a href="http://learningstore.uwex.edu/assets/pdfs/G3658-3.PDF">http://learningstore.uwex.edu/assets/pdfs/G3658-3.PDF</a> E. Taylor-Powell. 1998. <i>Questionnaire Design: Asking Questions with a Purpose</i> . University of Washington Cooperative Extension. <a href="http://learningstore.uwex.edu/assets/pdfs/g3658-2.pdf">http://learningstore.uwex.edu/assets/pdfs/g3658-2.pdf</a> <b>Handout Assignment #8</b>

Apr 24 Wed	Interviews and expert elicitation	Selections from GAO. 1991. <i>Using Structured Interviewing Techniques</i> . U.S. Government Printing Office: Washington, D.C.
Apr 29 Mon	Natural Resource Damage Assessments	<b><u>TBD – possible guest speaker</u></b>
May 1 Wed	Content analysis	GAO. 1996. <i>Content Analysis: A Methodology for Structuring and Analyzing Written Material</i> . U.S. Government Printing Office: Washington, D.C.
May 6 Mon	<b>FINAL EXAM</b>	7:30 pm – 10:00 pm