

Sustainable Development Policy

Fall 2013

Room: Lafayette Hall L111

Wednesdays, 04:05 – 07:05 pm

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Office Hours: Wed: 1 - 3 pm. Appointments at other times can also be made by email or telephone.

Welcome to CDAE 251: Contemporary Policy Issues: Community Development. In this advanced undergraduate service-learning course, you will learn about analyzing and evaluating a wide range of **sustainable development policies**, with emphasis on understanding the interactions among biodiversity, climate change, energy, transportation, food, water and air quality management policies. You are required to engage in critically analyzing and evaluating two substantive policy issues – managing Phosphorus flows in Lake Champlain at the regional scale and Green House Gas emissions at the global scale -- by applying theoretical and policy analytical skills learned in this class. The emphasis will be placed on understanding the dynamics of complex systems, and investigating how different public policy interventions in complex systems change the structure and the dynamics of the biogeophysical and socioeconomic systems. You will become familiar with three policy analytical methods: Participatory Multi-Criteria Analysis, Policy Analysis and Complex Systems Dynamic Modeling.

COURSE OBJECTIVES

At the completion of this course, you should be able to:

- Understand a wide range of theoretical and practical perspectives about sustainable development policies;
- Critically analyze the assumptions, causal mechanisms and outputs of complex system dynamic models for scenario analysis of alternate policy interventions
- Design, implement and evaluate environmental policy mechanisms
- Critically analyze discourses surrounding sustainable development policy designs and implementation
- Develop and refine your research, writing, analytical, and problem-solving skills

AN UNDERGRADUATE SERVICE-LEARNING COURSE

This class is designed as an advanced undergraduate level service-learning course. All students are expected to take an active leadership role in stimulating class discussions on readings, assignments and relevant sustainable development policy discourses. Further, all students are expected to participate in two class projects. First project concerns working with Lake Champlain Watershed Basin (LCWB) and other relevant stakeholder groups to design and evaluate Phosphorus reduction policies for managing the water quality in Lake Champlain within the broader context of adaptation to climate change. Second project concerns the evaluation of different policy mechanisms, such as Reduced Emissions from Deforestation and Forest Degradation (REDD), Clean Development Mechanism (CDM), and Joint Implementation (JI), that are being negotiated at the global scale as part of the post-Kyoto climate change governance regime aimed at reducing Green House Gas emissions at the global scale. Your active participation in the class discussions will help you achieve the course objectives through an interactive learning experience. You will engage in these two real-world projects to apply and refine the sustainable development policy concepts, skills and tools discussed during the class. In particular, you will learn to apply both critical and integrative approaches, such as Participatory Multi-Criteria Analysis, Policy Analysis and Complex Systems Dynamic Modeling, for assessing and evaluating alternate policy designs.

At the beginning of each class, you will have an opportunity to ask me questions pertaining to the course expectations and assignments. If you anticipate missing class, please let me know. Excessive absences will jeopardize your success and ultimately, your grade.

COURSE WEBSITE

A course website is created on Blackboard, which can be accessed at <https://bb.uvm.edu>. All power point presentations, additional readings, and assignments will be available at the Blackboard website.

TEXTS AND OTHER READINGS

Required:

Zia, Asim (2013) *Post-Kyoto Climate Governance: Confronting the Politics of Scale, Ideology and Knowledge*. Routledge, London and New York. ISBN 978-0-415-60125-2

Additional assigned readings (in *italics*) will be uploaded on the Blackboard website for this class.

CALENDAR

Date	Topics, Readings and Assignments
August 28	Topic: (1) Contemporary Policy Issues in Community Development Topic: (2) Sustainable Development Policy
September 4	Topic: (1) Theoretical Frameworks of Sustainable Development

	<p>Readings: Norton, B. G. (2006) <i>Ethics and Sustainable Development: An Adaptive Approach to Environmental Choice</i></p> <p>Topic: (2) From Win-Win to Trade-Off Paradigm in Designing Sustainable Development Policies</p> <p>Readings: Hirsch, P. D., Adams, B., Brosius, J. P., Zia, A., Bariola, N., and Dammert, J. L. (2011) <i>Acknowledging Conservation Trade-offs and Embracing Complexity. Conservation Biology</i> 25: 259-264.</p> <p>SL1 Activity: Bloom Presentation</p>
September 11	<p>Topic: Elicitation of Trade-Offs through Participatory Multi-Criteria Analysis</p> <p>Readings:</p> <p>(1) Zia, A., Paul Hirsch, Alexander N. Songorwa, David R. Mutekanga, Sheila O'Connor, Thomas McShane, Pete Brosius, Bryan Norton (2011) <i>Cross-Scale Value Trade-Offs in Managing Social-Ecological Systems: The Politics of Scale in Ruaha National Park, Tanzania. Ecology and Society</i> 16(4):7. http://dx.doi.org/10.5751/ES-04375-160407</p> <p>(2) Goodwin, Paul, and George Wright (2010) <i>Decisions Involving Multiple Objectives: SMART. In "Decision Analysis for Management Judgment". Fourth Edition. Wiley. Pages 31-56.</i></p> <p>Assignments: (1) SL 1 Projects Assigned</p>
September 18	<p>Topic: A Primer on Policy Analysis</p> <p>Readings: Bardach, Eugene (2009) <i>A Practical Guide for Policy Analysis: The Eightfold Path to More Effective Problem Solving. 3rd Edition. (Read Pages 1-64 and skim pages 65-136).</i></p> <p>SL1 Activity: Guest Speaker – Dr. Alan Betts, Atmospheric Research</p>
September 25	<p>Topic: Overshoot, Exponential Growth and the Limits</p> <p>Readings: Meadows, D. H., Randers, J., and Meadows, D. L. (2004) <i>Limits to Growth: The 30-Year Update. Chelsea Green. Chapters 1, 2 and 3.</i></p>
October 2	<p>Topic: Modeling the Dynamics of Growth</p> <p>Readings: Meadows, D. H., Randers, J., and Meadows, D. L. (2004) <i>Limits to Growth: The 30-Year Update. Chelsea Green. Chapters 4 and 5.</i></p> <p>SL1 Activity: Guest Speaker – Dr. Brian Woods, Vermont Agency of Natural Resources</p>

October 9	Field Trip to Lake Champlain Basin Program (www.lcbp.org) located at 54 West Shore Road, Grand Isle VT 05458. Class will meet there at 4:30 pm.
October 16	Topic: Transitions to a Sustainable System: Evaluating Policy Interventions in Complex Systems Readings: <i>Meadows, D. H., Randers, J., and Meadows, D. L. (2004) Limits to Growth: The 30-Year Update. Chelsea Green. Chapters 6 and 7.</i> Assignments: (1) Mid-Term Exam # 1
October 23	Topic: International Climate Policy Goals and Challenges: Politics of Scale Readings: (1) <i>Pacala, S. and Socolow, R. (2004) Stabilization Wedges: Solving the Climate Problem for the Next 50 Years with Current Technologies. Science 305: 968-972.</i> (2) Zia (2013) Chapter 1 (3) <i>Sterman, J. et al. (2012) Climate Interactive: The C-ROADS climate policy model. System Dynamics Review</i> Assignments: (1) SL 2 Project Assigned SL1 Activity: Guest Speaker – Dr. Andrew Schroth, Department of Geology at UVM
October 30	Topic: Global Climate Change Mitigation: REDD+, CDM and the Politics of Scale Readings: (1) <i>Defries, Ruth et al. (2010) Deforestation driven by urban population growth and agricultural trade in the twenty-first century. Nature Geoscience DOI: 10.1038/NGEO756</i> (2) Zia (2013) Chapters 2 and 3
November 6	Topic: Climate Change Risk: Politics of Ideology Readings: Zia (2013) Chapters 4 and 5 Group Activity: World Climate – a role playing exercise to exhibit climate negotiations
November 13	Topic: Global Climate Governance: Politics of Knowledge Readings: Zia (2013) Chapters 6, 7 and 8 Group Activity: Finalize SL1 Project Reports and Presentations Assignment: Mid-Term Exam # 2
November 20	Topic: Revisiting the Big Picture on Sustainable Development Policy as a Contemporary Policy Issue Readings: <i>United Nations (2012) The Future We Want. Rio+ 20, United Nations Conference on Sustainable Development</i> Guest Speaker: Gregory White (Professor at Smith College), author of “climate change and migration”
November 27	<i>No Class; Enjoy Thanksgiving</i>
December 4	Activity: Class Presentations for SL1 Assignment: SL 2 Final Paper Due

ASSIGNMENTS AND GRADING

The service learning assignments are geared towards providing you hands-on experience in conducting sustainable development policy analysis and evaluation and applying policy analytical tools discussed during the class in a real-world service-learning context. Detailed instructions about both of the service learning projects will be uploaded on the blackboard website as well as extensively discussed in the class at the time of assigning projects. **NO LATE ASSIGNMENTS WILL BE ACCEPTED UNLESS THERE ARE EXTRAORDINARY CIRCUMSTANCES THAT JUSTIFY LATE SUBMISSION.** Two mid-term exams, both of which will contain multiple-choice questions, will also be employed to evaluate your performance in the class. Both in-class and take-home quizzes will be assigned throughout the semester. Finally, pro-active participation and leadership during the class will also play very important role in your final grade. Overall grading weights for SL assignments, mid-term exams, quizzes and class participation & leadership are as follows:

SL ASSIGNMENT 1: POLICY AND SCENARIO ANALYSIS FOR REDUCING PHOSPHORUS IN LAKE CHAMPLAIN (30%): Students will apply, in assigned teams of 4 to 6 members, participatory multi-criteria analysis, policy analysis and/or complex systems dynamic modeling approaches to evaluate alternate policy designs for reducing Phosphorus flows in Lake Champlain. A detailed description of this assignment will be uploaded on the course website and extensively discussed in the class on September 11.

SL ASSIGNMENT 2: INTERNATIONAL CLIMATE POLICY ANALYSIS (15%): Students could choose any one (or a combination) of the three policy analytical tools – multi-criteria analysis, policy analysis and/or systems dynamic modeling – to assess and/or evaluate emergent post-Kyoto climate policy designs. A detailed description of this assignment will be uploaded on the course website and extensively discussed in the class on October 16.

MID-TERM EXAMS (30%): First mid-term examination will take place on October 9th. There will be 15 to 20 multiple-choice questions, worth 15% points. First mid-term examination will cover all the readings and class discussions between September 4th and October 2nd. Second mid-term examination will take place on November 13th. There will be 15 to 20 multiple-choice questions, worth 15% points. Second mid-term examination will cover all the readings and class discussions between October 9th and November 6th.

IN-CLASS AND TAKE-HOME QUIZZES (15%)

CLASS PARTICIPATION AND LEADERSHIP (10%)

RELEVANT PEER REVIEWED JOURNALS

1. Agriculture, Ecosystems & Environment
2. AMBIO: A Journal of the Human Environment
3. Annual Review of Energy and the Environment
4. Atmospheric Environment
5. Conservation Biology
6. Conservation and Society
7. Ecology and Society

8. Energy & Environment
9. Energy for Sustainable Development
10. Environment
11. Environment and Behavior
12. Environment and Development Economics
13. Environment and Planning, parts A, B, C and D
14. Environmental Conservation
15. Environment, Development and Sustainability
16. Environmental Economics and Policy Studies
17. Environmental Ethics
18. Environmental Health Perspectives
19. Environmental Impact Assessment Review
20. Environmental Justice
21. Environmental Law
22. Environmental Management
23. Environmental Modeling & Assessment
24. Environmental Policy and Governance
25. Environmental Policy and Law
26. Environmental Progress and Sustainable Energy
27. Environmental Science and Policy
28. Environmental Values
29. Ethics, Place & Environment
30. Global Environmental Change
31. Global Environmental Politics
32. International Environmental Agreements: Politics, Law and Economics
33. International Journal of Sustainable Development and World Ecology
34. International Journal of Sustainable Energy
35. International Journal of Technology Management and Sustainable Development
36. Journal of Agricultural Biotechnology and Sustainable Development
37. Journal of Education for Sustainable Development
38. Journal of Environment and Development
39. Journal of Environmental Assessment Policy and Management
40. Journal of Environmental Management
41. Journal of Environmental Planning and Management
42. Journal of Environmental Policy and Planning
43. Journal of Sustainable Agriculture
44. Journal of Sustainable Development
45. Journal of Sustainable Forestry
46. Journal of Sustainable Tourism
47. Planning & Environmental Law
48. Population & Environment
49. Regional Environmental Change
50. Renewable and Sustainable Energy Reviews
51. Review of Environmental Economics and Policy
52. Sustainable Cities and Society
53. Sustainable Development