

Advanced Environmental Planning

Planning for Sustainability of Coupled Human and Natural Systems

URP 6428 – Section 12FC, 3 credits

Fall 2016
Tuesdays 9:35am-12:35pm, ARCH 439

Dr. Kathryn Frank
ARCH 452
kifrank@ufl.edu

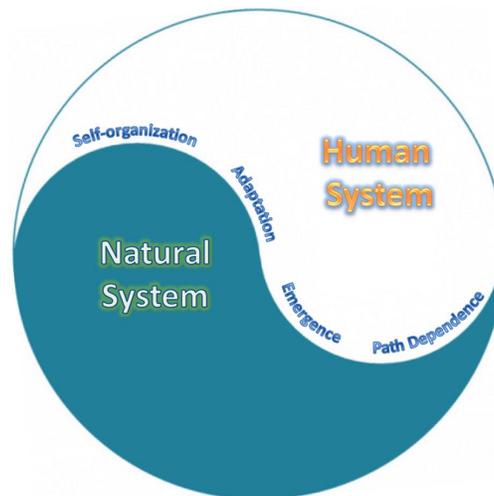


Image source: <http://gis.uncc.edu/sites/gis.uncc.edu/files/media/research/CHANS.jpg>

This course examines trends in environmental planning (also environmental design, management, and policy) practice, particularly the perspectives of the **Anthropocene** and **coupled human and natural systems**. The Anthropocene is the current epoch wherein humans are significantly impacting Earth's living systems. The perspective of coupled human and natural systems acknowledges the dependency of people on living systems (sustainability), from local to global scales, the systems' complexities and dynamics, and the value of managing coupled systems for resiliency. The perspective also recognizes social systems as key environmental planning concerns, the need to understand the behavior of coupled systems, and the key role that planning can play in mediating the relationship between people and the environment.

The course is organized into three modules, each of which represents an important principle of planning for coupled human and natural systems: **protection, adaptation, and integration**. Protection refers to the suite of values

considered, both environmental and human. Adaptation includes issues of rapid change, uncertainty, learning, and flexibility. Integration highlights the need to bridge a wide variety of interests, information, and scales of governance. Each principle translates into concrete planning techniques that address 21st century concerns.

The course provides exposure to a range of ***interdisciplinary and international practice and research***, which will support students' advanced studies. The class discussions and assignments can be tailored to students' interests (e.g., theses).

Learning Objectives – Upon course completion, students should be able to

- Explain how recognition of the Anthropocene and the theory of coupled human and natural systems have changed the field of environmental planning.
- For any given environmental problem, identify the relevant coupled human and natural system(s), system trends and underlying drivers, and the potential leverage points for planning.
- Explain how protection, adaptation, and integration are key principles of planning for sustainability of coupled human and natural systems.
- Identify planning techniques that foster sustainability of coupled human and natural systems.

Course Format

The weekly classes will include presentations, class discussions, and small group exercises. We will take at least one class field trip, with date and location to be determined by the instructor and class.

The course has a Canvas site containing all course materials and grades (login under Canvas at <https://lss.at.ufl.edu>). All readings are posted in the Canvas site's Modules. All assignments should be submitted through Canvas.

Office hours are by appointment. Email is the best method to communicate with the instructor outside of class, either via Canvas or directly kifrank@ufl.edu.

At any time, this syllabus is subject to minor change. Students will be informed of all changes as soon as possible.

Assignments and Grading

Assignment	Instructions (see Canvas)	% of grade	Due
<i>Class attendance and participation</i>	Come to class each week, be prepared, pay attention, and participate in discussions and exercises.	25%	Each class

<i>Case study selection and overview presentation</i>	At the beginning of the semester, choose a case of environmental planning to research throughout the semester. Give a 10-min powerpoint overview of your case, followed by 5 min Q&A.	10%	Tues Sep 16 (selection) and Tues Sep 20-27 (presentation)
<i>Case study module reports (3)</i>	At the end of each module, submit a report analyzing your case in relation to the module topics. Each report should be 1000-1500 words.	45% (15% each)	Wed 11:59pm, following last class of each module
<i>Course reflection essay</i>	Write a 1500 word essay discussing what you learned in the course, its significance for sustainability and planning practice, and how it relates to your education and career.	20%	Wed Dec 14 11:59pm

An “A” grade requires demonstration of a solid understanding and application of the course topics, reflection and analysis, clear and compelling communication, proper citations and references, and timely submittal. A “B” grade is basically sound, but has a deficiency in one of the areas above. A “C” or lower grade has significant deficiencies.

Late assignments will be marked down 10% of the total grade if they are not turned in by the deadline, and then an additional 10% for each week they are late (including weekends). *Missed class* and *makeup work* are allowed with acceptable, documented, and prompt reasons for absence, with communication to the instructor as early as possible:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>. The terms of making up missed work will be determined by the instructor in discussion with the student.

The relationship between letter grades and numeric grades is: A is 93-100%, A- is 90-92%, B+ is 88-89%, B is 83-87%, B- is 80-82%, C+ is 78-79%, C is 73-77%, C- is 70-72%, D+ is 68-69%, D is 63-67%, D- is 55-57%, and E is below 55%. Where A=4.0, A-=3.67, B+=3.33, B=3.0, B-=2.67, C+=2.33, C=2.0, C-=1.67, D+=1.33, D=1.0, D-=0.67, E=0.0.

Accommodation for Students with Disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office, Disability Resource Center: <https://www.dso.ufl.edu/drc/>. The Dean of Students Office will provide documentation and assistance with providing reasonable accommodation. Documentation should be provided to the instructor with enough time to make accommodations.

Student Honor Code and Academic Honesty

Students MUST follow the University's Honor Code, which includes issues of cheating, plagiarism, and honesty. Please see <http://www.correspondencestudy.ufl.edu/students/handbook/Plagiarism/PlagiarismAlert.html> for guidance to avoid plagiarism and other Honor Code violations. *I will screen all assignments for plagiarism using the text-matching tool Turnitin (<http://turnitin.com/static/index.html>).* Students must submit work that is original to this course, i.e., not the student's work from another course (unless it is used as a reference and properly cited).

Getting Help

For questions about Canvas, see <https://wiki.helpdesk.ufl.edu/FAQs/E-Learning>. For any and all problems with Canvas, you should first contact the UF Help Desk, either by phone (352-392-4357) or by email helpdesk@ufl.edu. You can also walk-in and speak to a customer support person face-to-face in Hub 132.

Other resources are available

- Counseling and Wellness <http://www.counseling.ufl.edu/cwc/>
- Student Conduct and Conflict Resolution <https://www.dso.ufl.edu/sccr>

About Professor Frank



Dr. Frank specializes in planning for sustainability of coupled human and natural systems. Specific areas of specialization include sea level rise adaptation, ecosystem and watershed management, regional planning, rural planning, collaborative planning, and youth participation in planning. She previously worked as a planning consultant and environmental engineer. She received a doctorate in City and Regional Planning from Georgia Tech and a master's degree in Community and Regional Planning from the University of Oregon. Her undergraduate majors were chemical engineering and mathematics.

Course Schedule

<i>Class Date</i>	<i>Topic</i>	<i>Assignments and Reading Due Dates</i>
INTRODUCTION		
<i>Aug 23</i>	Overview of course and class introductions	
<i>Aug 30</i>	The Anthropocene and sustainability	Haberl et al. 2011 Harden et al. 2014
<i>Sep 6</i>	Coupled human and natural systems	Balassiano 2011 Benson and Craig 2014 Submit case study selection
Module 1: PROTECTION		
<i>Sep 13</i>	Values of coupled human and natural systems	Jun and Conroy 2014 Wainger and Mazzotta 2011
<i>Sep 20</i>	Evaluating systems and planning	Garedew et al. 2012 Ross and Berkes 2014 Case overview presentations
<i>Sep 27</i>	Protective responses	Sovacool 2011 Millard-Ball 2013 Case overview presentations continued
<i>Oct 4</i>	Review of module	Module case study report due Wednesday Oct 5 at 11:59pm
Module 2: ADAPTATION		
<i>Oct 11</i>	Uncertainty and beliefs	Gallo and Goodchild 2012 Norgaard 2011

<i>Oct 18</i>	Change and adaptation	Picketts et al. 2014 Dymén and Langlais 2013
<i>Oct 25</i>	Learning and capacity building	Tarnoczi 2011 Mitchell et al. 2014
<i>Nov 1</i>	Review of module	Module case study report due Wednesday Nov 2 at 11:59pm
Module 3: INTEGRATION		
<i>Nov 8</i>	Sustainability science	Holden 2012 Todes 2012
<i>Nov 15</i>	Integrating stakeholders and values	Hartmann 2012 Duguma et al. 2014
<i>Nov 22</i>	Integrating across scales	Compas 2012 Clapp and Mortenson 2011
<i>Nov 29</i>	Review of module	Gruber 2010 Suhardiman et al. 2012
<i>Dec 6</i>	Review of course	Module case study report due Wednesday Dec 7 at 11:59pm
<i>No class</i>	Finals week	Course reflection essay due Wednesday Dec 14, 11:59pm

Required Readings (Available on Canvas)

- Balassiano, Katia. 2011. Tackling “wicked problems” in planning studio courses. *Journal of Planning Education and Research* 31(4):449-460.
- Benson, Melinda Harm, and Robin Kundis Craig. 2014. The end of sustainability. *Society and Natural Resources* 27:777-782.
- Clapp, Roger Alex, and Cecelia Mortenson. 2011. Adversarial science: Conflict resolution and scientific review in British Columbia’s central coast. *Society and Natural Resources* 24:902-916.
- Compas, Eric. 2012. “Retooling” for the new West: environmental NGOs, planning, and governance regimes. *Society and Natural Resources* 25(9):883-899.
- Duguma, Lalisa A., Peter A. Minang, and Meine van Noordwijk. 2014. Climate change mitigation and adaptation in the land use sector: From complementarity to synergy. *Environmental Management* 54:420-432.
- Dymén, Christian, and Richard Langlais. 2013. Adapting to climate change in Swedish planning practice. *Journal of Planning Education and Research* 33(1):108-119.
- Gallo, John, and Michael Goodchild. 2012. Mapping uncertainty in conservation assessment as a means toward improved conservation planning and implementation. *Society and Natural Resources* 25(1):22-36.
- Garedew, Efrem, Mats Sandewall, and Ulf Soderberg. 2012. A dynamic simulation model of land-use, population, and rural livelihoods in the Central Rift Valley of Ethiopia. *Environmental Management* 49:151-162.
- Gruber, James S. 2010. Key principles of community-based natural resource management: A synthesis and interpretation of identified effective approaches for managing the commons. *Environmental Management* 45:52-66.
- Haberl, Helmut, Marina Fischer-Kowalski, Fridolin Krausmann, Joan Martinez-Alier, and Verena Winiwarter. 2011. A socio-metabolic transition towards sustainability? Challenges for another great transformation. *Sustainable Development* 19:1-14.
- Harden, Carol P., Anne Chin, Mary R. English, Rong Fu, Kathleen A. Galvin, Andrea K. Gerlak, Patricia F. McDowell, Dylan E. McNamara, Jeffrey M. Peterson, N. LeRoy Poff, Eugene A. Rosa, William D. Solecki, and Ellen E. Wohl. 2014. Understanding human-landscape interactions in the “Anthropocene.” *Environmental Management* 53:4-13.
- Hartman, Thomas. 2012. Wicked problems and clumsy solutions: planning as expectation management. *Planning Theory* 11(3):242-256.
- Holden, Meg. 2012. Is integrated planning any more than the sum of its parts? Considerations for planning sustainable cities. *Journal of Planning Education and Research* 32(3):305-318.

- Jun, Hee-Jung, and Maria Manta Conroy. 2014. Linking resilience and sustainability in Ohio township planning. *Journal of Environmental Planning and Management* 57(6):904-919.
- Millard-Ball, Adam. 2013. The limits to planning: causal impacts of city climate action plans. *Journal of Planning Education and Research* 33(1):5-19.
- Mitchell, Michael, Rod Griffith, Paul Ryan, Greg Walkerden, Brian Walker, Valerie A. Brown, and Sandy Robinson. 2014. Applying resilience thinking to natural resource management through a “planning-by-doing” framework. *Society and Natural Resources* 27(3):299-314.
- Norgaard, Kari Marie. 2011. Climate change as background noise in the United States in *Living in Denial: Climate Change, Emotions, and Everyday Life*. Cambridge, MA: MIT Press. 177-205.
- Picketts, Ian M., Stephen J. Déry, and John A. Curry. 2014. Incorporating climate change adaptation into local plans. *Journal of Environmental Planning and Management* 57(7):984-1002.
- Ross, Helen, and Fikret Berkes. 2014. Research approaches for understanding, enhancing, and monitoring community resilience. *Society and Natural Resources* 27(8):787-804.
- Sovacool, Benjamin K. 2011. Using ecosystem valuation to protect the Atlantic Rainforest: the case of the Oasis Project. *Society and Natural Resources* 24:1096-1104.
- Suhardiman, Diana, Mark Giordano, and Francois Molle. 2012. Scalar disconnect: the logic of transboundary water governance in the Mekong. *Society and Natural Resources* 25:572-586.
- Tarnoczi, Tyler. 2011. Transformative learning and adaptation to climate change in the Canadian Prairie agro-ecosystem. *Mitigation and Adaptation Strategies for Global Change* 16:387-406.
- Todes, Alison. 2012. New directions in spatial planning? Linking strategic spatial planning and infrastructure development. *Journal of Planning Education and Research* 32(4):400-414.
- Wainger, Lisa, and Marisa Mazzotta. 2011. Realizing the potential of ecosystem services: a framework for relating ecological changes to economic benefits. *Environmental Management* 48(4):710-733.