The Pedagogy of Climate Change Planning

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for ACSP, 2010
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Climate Change Planning

Adaptation: Actions taken to prepare for coming changes in climate

Mitigation: Actions taken to reduce greenhouse gas emissions
Research Questions

• How and where is planning for climate change being taught?
• What’s the breakdown between adaptation and mitigation? Seminar and studio?
• [Are planning approaches matching emerging transdisciplinary approaches?]
Method

- Call for responses on PLANET
- Direct email to ‘Climate’ faculty from 2010 Guide
- Copies of all relevant syllabi
- Interviews with sample of faculty*
- Content analysis of syllabi, supported by interview data
23 responses

13 planning faculty with 22 syllabi

17 syllabi for analysis

6 faculty for interviews

10 for CC integrated in classes/projects

1 Public Policy
<table>
<thead>
<tr>
<th>University</th>
<th>Title of Class</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>A Berlin</td>
<td>Sustainable Infrastructure Spatial Design</td>
<td>Pizarro</td>
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<td>B Berlin</td>
<td>Sustainable Urbanism</td>
<td>Pizarro</td>
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<td>C Cal Poly SLO</td>
<td>Climate Action Planning</td>
<td>Greve</td>
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<td>D Cal Poly SLO</td>
<td>Community Plng Lab: City of San Luis Obispo Climate Action Plan</td>
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<td>E Florida State</td>
<td>Planning for and Mitigating Global Climate Change</td>
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<td>F Harvard</td>
<td>Seminar on Urban Climate Adaptation</td>
<td>Rosenthal</td>
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<tr>
<td>G Hawaii</td>
<td>Environmental Plng: CC and Envir Sust in Asia-Pacific Region</td>
<td>Coffman</td>
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<td>H MIT</td>
<td>Urban Climate Vulnerability, Adaptation, and Justice</td>
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<td>I MIT</td>
<td>Urban Climate Adaptation in South Africa</td>
<td>Carmin</td>
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<tr>
<td>J Penn</td>
<td>Adaptation to CC in the Delaware River Basin</td>
<td>Barnett</td>
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<tr>
<td>K Temple</td>
<td>Planning Studio</td>
<td>Mandarano</td>
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<td>L U Texas</td>
<td>Building a Sustainable Region</td>
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<td>M UC Davis</td>
<td>Landscape and Regional Plng Seminar &amp; Studio</td>
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<td>Metropolitan Sustainability &amp; Plng Ethics</td>
<td>Howard</td>
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<td>O UT Arlington</td>
<td>Project Planning: Campus Carbon Footprint Reduction</td>
<td>Howard</td>
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<td>P Virginia Tech</td>
<td>Community Renewable Energy Systems</td>
<td>Randolph</td>
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<td>Q Univ of Mass</td>
<td>Planning for Climate Change</td>
<td>Hamin</td>
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Tuesday, October 5, 2010
Findings -- curricular location

- Mostly environmental electives
- Some core studios
- For those including it into other classes, often is core courses -- intro to land use, law, intro to planning.
Findings -- Numbers

• Quite a few classes
• More seminar than studio (11 v 6), more mitigation or both (6 and 7) than adaptation primarily (just 2)
• Big upswing in faculty research interests (2005 = 1, 2010 = 13 in Guide)
Learning Objectives

- change
- planning
- climate
- sustainability
- emissions
- policy
- impacts
- urban
- local
- global
- energy
- systems
- strategies
- empirical
- new
- studio
- environmental
- design
- development
- understanding
- sustainable
- next
- seminar
- recycle
- greenhouse
- use gas
- water
- process
- knowledge
- including
- within
- based
- carbon
- equity
- community
- years
- plan
- students
- adaptation
- course

n=17

wordle.com

Tuesday, October 5, 2010
Seminar Content

- Models
- Cases
- Science
- CAP
- Forecasts
- International
- Vulnerability
- Energy
- Transportation
- Impacts
- Sectoral
- Health
- Land-Use
- Design
- Justice
- Risk
- Carbon-Accounting
- Laws
- Governance
- IPCC

n=9
Our Process

The City of San Luis Obispo committed to following a Five Milestone process. These "milestones" established by ICLEI (International Council for Leadership in Environmental Initiatives) were designed to give cities and counties a clear path towards achieving climate protection goals. The City worked with a team of students from Cal Poly - the Cal Poly Climate Team - to develop a draft Climate Action Plan as called out in Milestone 3 between October 2009 and April 2010. The work was conducted in two phases:

Phase 1

Research → Outreach → Policy Review → Policy Audit

Phase 2

Policy Audit → Focused Outreach → Strategy Development → Draft CAP

http://www.slocool.org/our-process.html
Mission Statement

This studio examines the escalating threat of climate change in the Delaware River Basin in order to highlight its regional consequences and inform policy and design interventions.

By modeling the effects of sea level rise, flooding, and storm surge in the years 2000, 2050, and 2100 overlaid with projected urbanization trends, the studio analyzes potential impacts on land use, infrastructure, and development.

Recommendations include policy revisions, design guidelines, and physical interventions that will protect the economic, cultural, and environmental vitality of the region.

http://www.design.upenn.edu/files/Climate_Change_-_Delaware_River_Basin_-_web.pdf
Studio Pedagogy--
Mitigation

• Train students in emissions counting
• ICLEI software
• (future: land use/transp models?)
• Recommend policies to reduce GhG
Studio Pedagogy -- Adaptation

- Find climate forecasts for region
- Apply sea level rise, precipitation changes, etc. to region (GIS)
- Determine vulnerabilities and needed changes to zoning and other regulations
Conclusions

• Emerging area of teaching and research
• Highly diverse course offerings
• Some lack of connection to transdisciplinary CC concepts (resilience, risk, vulnerability, justice)
• Strong connections to government needs and NGO approaches
Thanks go to:

Barnett  Greve  Pendall
Birch    Hovey    Pizarro
Carmin  Howard  Randolph
Coffman  LaGro  Rapaport
Cowley  LaPorte  Rosenthal
Deyle  Mandarano  Urey
Frank  Minnery  Urey
Goldstein  Oden  Wall
Wheeler
Know another course?

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