

The Sustainable City: Developing an Interdisciplinary, Team-Taught, Hybrid Course

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In Spring 2009, the College of Professional Studies piloted a seminar entitled BGS 394 "The Sustainable City." Developed and team-taught by Carl Zimring and Michael Bryson, colleagues with backgrounds in environmental history, environmental literature, and urban ecology, the seminar explores the myriad environmental, social, and scientific dimensions of sustainability in urban regions. Using the Chicago metropolitan area as a learning laboratory, the course takes a multidisciplinary approach to urban ecology, waste management, green design, climate change, urban planning, parklands, water systems, environmental justice, ecological restoration, and urban agriculture. Its first iteration introduced Roosevelt University adult undergraduates (most of whom had no background in science or environmental studies) to the study of the Chicago metropolitan area's natural and social environment.

One notable aspect of our seminar is its mix of technological, traditional, and field-based learning experiences, which might well be summarized by the phrase "from Blackboard to Bubbly Creek." We describe here how the course combines Blackboard-based interaction; online resources ranging from films about urban agriculture to maps of the Chicago area's wetlands; traditional in-class lecture and discussion; and several field trip experiences in the city and suburbs. In addition, we briefly evaluate the potential of urban sustainability as an organizing theme for general educational goals within the Professional and Liberal Studies undergraduate program for adult students.

Defining Urban Sustainability

Urban sustainability encompasses many factors. The overriding goal of sustainability is to establish a way of living, of conducting business, and of protecting environments from the local to the global in such a way that will benefit the ways in which

generations will live years, decades, and centuries into the future. Meeting this goal requires approaches that utilize the natural sciences, social sciences, policy, and creative thought. Within such a context the city is viewed as an integrated series of systems that manage energy, water, goods, services, and wastes; a sustainable system approach does so without depleting resources or otherwise damaging the environment (Sachs, 1993; Douglass and Zoghlin, 1994; Drakakis-Smith, 1995).

Planning "The Sustainable City"

We enjoyed an embarrassment of riches regarding possible themes and opportunities for an urban sustainability course in Chicago. One question was that of disciplinary focus: because so many social and natural sciences are relevant to the study of urban sustainability, what balance of disciplinary approaches would be appropriate?

A second dilemma had to do with the case studies explored. In a metropolitan area with so many examples of functioning and non-functioning systems, what cases were most vital to this course, and to what extent should we focus on them? The latter question would loom large; in actually teaching the course, we realized that our one-week on water, for example, could easily be expanded to be a course in its own right.

Third, since the course was designed as a hybrid of in-class meetings, field trips, and online discussion, we needed to determine what materials would be presented in each of those formats -- and how the formats might integrate together.

In organizing the syllabus for the course, we decided that scheduling the field trips was our top priority. These meetings required the most advanced planning, yet also provided the additional benefit of locking in times in the schedule to focus on particular themes. This decision necessitated a modular set of readings, allowing us to narrow down the type of textbook and additional readings we would offer. To a large extent, then, the shape and structure of our syllabus was created through planning the field trips in Fall 2008.

We then selected a textbook, the second edition of *The Sustainable Urban Development Reader* (Wheeler and Beatley, 2009). Aside from being brand-new, the text was broken up into modules and was broadly interdisciplinary, ranging from checklists of LEED certification for buildings to science fiction ruminations on the ideal community. We subsequently added short readings and websites to augment the main text.

The weekly rhythm of the class involved conducting lectures and leading large seminar discussions each Tuesday at Gage, then posting a series of discussion questions to

stimulate online dialogue in Blackboard the rest of the week. Field trips were usually held on occasional Saturdays; students were required to attend at least two and write up reflection pieces on the experience that also incorporated relevant course readings. Students also developed a relevant research project that was produced in stages over the course of the semester, ideally incorporating themes from the readings and field trips in addition to outside research (Bryson and Zimring, 2009b).

From Blackboard to Bubbly Creek

"The Sustainable City" was a technology-intensive seminar in every respect, a logical result of its hybrid format. All course materials -- from the basic syllabus to an extensive bibliography of print and online resources to detailed research guides -- were accessible both from our Blackboard site as well as the freestanding course website (Bryson and Zimring, 2009c). Videos, interactive maps, virtual building tours, and other multimedia sources complemented traditional print-based readings and figured prominently in our many PowerPoint presentations for on-campus class sessions.

One noteworthy integration of technology into the seminar was the Library Resource Paper, which required students to identify, cite, and briefly annotate several sources relating to a topic of their choosing in specific RU catalogs, databases, and other resources (Bryson and Zimring, 2009a). This assignment was supported by our embedded librarian, Jennifer Lau-Bond, who also developed a customized "LibGuide" library resource page for our seminar (Lau-Bond, 2009). The assignment emphasized the use of peer-reviewed sources as a corrective to Google-based research, and helped generate topic choices and working bibliographies for students' forthcoming research projects.

The course's field trips were not only diverting and instructive breaks in the weekly rhythm of the course, but also were carefully integrated with the seminar's schedule and written assignments. A brief description of three trips illuminates the variety of disciplinary approaches and themes in the course.

During the second week of the semester, students had a choice of seeing a Van Jones lecture at the Museum of Science and Industry or participating in the Chicago Wilderness-sponsored "Wild Things" conference at UIC. Jones highlighted the central role economics and job creation has in efforts to forge a more sustainable and just society, through his linkage of the "green economy" and environmental justice. "Wild Things" introduced students to a wide range of sustainability, urban ecology, and conservation topics (e.g., biodiversity and wetland restoration) that anticipated upcoming weekly themes as well as inspired possible research topics.

Our final trip on May 2 -- a canoe trip down Bubbly Creek led by the organization Friends of the Chicago River -- brought to life the challenges and opportunities of restoring vitality to a long-abused (and infamous -- Upton Sinclair identified it as a "great open sewer" for Chicago's slaughterhouses a century ago) waterway in the context of a fun and unique urban outdoor adventure (Sinclair, 1906).

Sustainability, Interdisciplinary Teaching, and General Education

"The Sustainable City" exemplifies how the analytic methods of the social and natural sciences can be integrated to shed light on issues related to urban sustainability. Topics such as environmental history and urban ecology, sustainable development and landscape transformations, recycling and waste management, and ecosystem restoration are best examined not in isolation from one another, but in combination and through the lenses of history, policymaking, biology, and ecology.

This approach influenced every aspect of the seminar's design, including the team-teaching format, the selection of weekly reading/discussion topics, the choice of field trips, and the various writing assignments. One pedagogical challenge, in particular -- the fact that students would be taking the course for either social science or natural science credit within their general education sequence -- turned into an opportunity for us to develop new online materials to guide students through the entire research process, from selecting a topic to crafting a proposal to writing a research paper. (Bryson and Zimring, 2009b).

More broadly, the seminar served as an incubator for ideas about how the theme of sustainability can enrich undergraduate general education, inspire curriculum initiatives in urban environmental studies, provide opportunities for service learning, and connect city and suburban students to local environmental concerns within the urban landscape. Future iterations of the course can integrate service learning experiences, especially given the centrality of environmental justice to the seminar's topics and overall spirit. This could involve providing research and/or manual labor for urban farming operations, a project being pioneered by our colleague Maris Cooke in the College of Professional Studies.

Student response to the course theme of sustainability was so positive that we are in the initial phases of developing a "Sustainability Studies" program that would focus on the urban environment. Such an initiative would align with the increased prominence of sustainability in institutions of higher education, which not only are aiming to make

their campus operations more ecologically sound but also are integrating sustainability throughout the college curriculum (Webster and Dautremont-Smith, 2009).

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