SUSTAINABLE COMMUNITY DESIGN

GEOGRAPHY 4771 – FALL 2013

Instructor: Raphael Shay
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Office Hours: By appointment, prior to class

Calendar Description:

A review of current literature and practical applications relating to concepts of sustainable community planning, with specific reference to transportation systems, land use zoning, water, energy, agriculture, urban sustainability and waste. The measurement of sustainability and the sustainability of human activities at regional scales are also considered through the application of the STARS rating system on Lakehead University.

Prerequisite:

Geography 3731 or permission of the instructor.

Course Objectives:

- provide an appreciation for the principles and practice of Sustainable Community Design;
- explore the broader implications for society if urban sustainability is to be implemented;
- explore technical issues of sustainability with regards to: topics...
- evaluate Lakehead University against STARS rating and determine opportunities to improve the University's rating;
- provide opportunities for development and practice of writing and communication skills.

Course Grading:

Seminar 1: (topic assigned)	15
Seminar 2: (student choice)	
Proposal & paper	20
Presentation	20
Group Project	
Meetings & Oral Reporting	15
Final Written Report	15
Class Participation	15

Seminar topics (both topic assigned and topic of your choosing) are to be related to the major themes

of the course (refer to course schedule). Descriptions of student-led **seminars and audience expectations** and of the **group project applying the STARS rating** are provided on a subsequent page and in a separate handout, respectively.

Course Organization:

The course meets three hours per week (MWF, 11:30 – 12:30 in RB-3047). These meetings will be a mix of lectures, in-class discussions and student-led seminars. Early in the semester, you will be required to select a seminar topic reflecting one of the course's key themes.

Course Resources:

- (REQUIRED) Course Manual entitled ""Course Readings for Geography 4771"; {available in the Lakehead University bookstore.}
- (REQUIRED) stars Version 1.2 Technical Manual, February 2012. Available at: https://stars.aashe.org/pages/about/technical-manual.html
- (OPTIONAL) Diamond, J. 2005. Collapse: How Societies Choose to Fail or Succeed. Penguin Paperbacks, 592 pp. {widely available at on- and off-campus bookstores}

To support the above, the instructor may circulate additional articles and excerpts from books cited in class lectures. In addition, the following books are on reserve (or available electronically) in the Cancellor Paterson Library, which may be of use to supplement lecture material and in your research papers and seminars.

Alexander, C. *et al*. 1977. *A Pattern Language: Towns, Buildings, Construction.* New York: Oxford University Press, 1171 pp.

Arendt, R. 1994. *Rural By Design: Maintaining Small Town Character.* Chicago: Planners Press, American Planning Association, 441 pp.

Barton, H. 2000. *Sustainable communities: the potential for eco-neighbourhoods*. London: Earthscan, 305 pp.

Barton, H., Grant, M. and Guise, R. 2003. *Shaping neighbourhoods: a guide for health, sustainability and vitality*. London: Spon, 244 pp.

Beatley, T. 2000. *Green Urbanism: Learning from European Cities.* Washington, D.C.: Island Press, 308 pp.

Benton-Short, L. and Short, J.R. 2008. *Cities and Nature*. New York: Routledge, 281 pp.

Calthorpe, P. 1993. *The Next American Metropolis: Ecology, Community and the American Dream.* New York: Princeton Architectural Press, 175 pp.

Chambers, N., Simmons, C. and Wackernagel, M. 2000. *Sharing Nature's Interest: Ecological Footprints as an Indicator of Sustainability*. London: Earthscan, 185 pp.

Duany, A., Speck, J., and Plater-Zyberk, E. 2000. *Suburban Nation: The Rise of Sprawl and the Decline of the American Dream.* North Point Press, 304 pp.

European Conference of Ministers of Transport 1995. *Urban Travel and Sustainable Development*.

Paris: Organization for Economic Co-operation and Development, 238 pp.

Friedman, A. 2002. *Planning the New Suburbia: Flexibility by Design*. Vancouver: UBC Press, 194 pp.

Friedman, A. 2007. *Sustainable Residential Development: Planning and Design for Green Neighborhoods*. Maidenhead: McGraw-Hill Professional, 288 pp. [available electronically through the library web site]

Hallsmith, G. 2003. *The Key to Sustainable Cities: Meeting Humans Needs Transforming Community Systems*. Gabriola Island, BC: New Society Publishers, 259 pp.

Hough, M. 1995. *Cities and Natural Process.* New York: Routledge, 326 pp.

Jacobs, J. 1961. *The Death and Life of Great American Cities.* New York: Random House, 458 pp.

James, S. and Lahti, T. 2004. *The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices*. Gabriola Island, BC: New Society Publishers, 279 pp.

Kahn, M.E. 2006. *Green Cities: Urban Growth and the Environment*. Washington, D.C.: Brookings Institution Press.160 pp.

Maclaren, V. 1993. *Sustainable Urban Development in Canada: from Concept to Practice.* Toronto: ICURR Press.

M'Gonigle, M. and Starke, J. 2006. Planet U: Sustaining the World, Reinventing the University, New Society Publishers: Gabriola Island, BC, 288 pages.

Newman, P. and Kenworthy, J. 1999. *Overcoming Automobile Dependence.* Island Press, 450 pp.

Newman, P. and Jennings, I. 2008. *Cities as Sustainable Ecosystems: Principles and Practices*. Washington, D.C.: Island Press, 284 pp.

Northey, M.E. and McKibbin, J. 2002. *Making Sense: A Student's Guide to Research and Writing*, 4th Edition. Don Mills, Ont: Oxford University Press, 178 pp.

Register, R. 1987. *Ecocity Berkeley: Building Cities for a Healthy Future*. North Atlantic Books, Berkeley, California, 140 pp.

Register, R. 2006. *Ecocities: Rebuilding Cities in Balance with Nature.* Gabriola Island, BC: New Society Publishers, 373 pp.

Roseland, M. and Connelly, S. 2005. *Toward Sustainable Communities: Resources for Citizens and their Governments*. Gabriola Island, BC: New Society Publishers, 239 pp. [available electronically through the library web site]

Thomas, R. (editor) 2003. *Sustainable Urban Design: an Environmental Approach*. London: Spon, 212 pp.

Wackernagel, M. and Rees, W. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. Gabriola Island, BC: New Society Publishers, 160 pp.

White, R.R. 2002. *Building the Ecological City.* Cambridge, UK: Woodhead Publishing Ltd., 238 pp.

Wilson, A. 2006. *Your Green Home: A Guide to Planning a Healthy, Environmentally Friendly New Home*. Gabriola Island, BC: New Society Publishers, 237 pp. [available electronically through the library web site]

Williams, K., Burton, E., and Jenks, M. (editors) 2000. *Achieving Sustainable Urban Form*. London: Spon, 388 pp.

GEOG 4771 COURSE ESCHEDULE (subject to changes)

Week of	Monday	Wednesday	Friday
Sept 9	(1) Course Introduction, sustainability	(2) Sustainability Indicators	Seminars and STARS project
Sept 16	GPM: formulation of groups, study areas, fieldwork	(3) Sustainable Urban Development	Student Presentations
Sept 23	Student Presentations	(4) Sustainable Transportation	GPM: Oral progress report, introductions
Sept 30	Student Presentations	(5) Sustainable Energy Systems	Student Presentations
Oct 7	(6) Waste Management	GPM: Progress report, Seminar topic proposal	Student Presentations
Oct 14	Thanksgiving - no class	(7) Water & Wastewater	Student Presentations
Oct 21	(8) Sustainable Agriculture	Student Presentations	GPM
Oct 28	Seminar	Seminar	GPM
Nov 4	Seminar	Seminar	Seminar
Nov 11	(9) Systems Thiking	Seminar	GPM
Nov 18	Seminar	Seminar	Seminar
Nov 25	Seminar	Seminar	GPM: Final tabulations, clarifying questions for final report
Dec 2	(10) Achieving Sustainability & Theories of Change	No class	No class

Notes: (#) denote lectures; GPM refers to group project meetings and presentations;

RESEARCH SEMINAR GUIDELINES

Each student will prepare and present two research seminars. Their purposes are to explore specific aspects of the course's main themes (see course schedule) and to facilitate student-led inquiry and discussion. A laptop computer and data projector will be provided at each class for visual aids such as power point or prezi.

In **Seminar 1**, topics will be assigned by the Instructor in week 1 (3rd class meeting) of the semester. Seminars are to be efficiently researched using both literature and (some) internet sources. Seminar length will be 15 minutes in duration[1]. Within this time, you should allocate a few minutes for discussion. Time limits will be **ruthlessly enforced**, so plan accordingly (the rule of thumb is that each slide takes approximately a minute to speak to, hence a 10 minute presentation would need no more than 10 slides). A paper copy of your seminar slides (***print on once-used paper if at all possible***), with 2 slides per page should be provided to the Instructor prior to your presentation.

In **Seminar 2**, more latitude on topics will be provided. Students will choose topics from one of the course's main themes. Oral presentation format will be similar to that of the first seminar, except that Seminar 2 is to be a *more rigorously-researched* topic (i.e., Internet sources are to be used only for finding diagrams to illustrate presentations) and you will prepare a 2500-word paper, a 500-word summary, a list of 3-4 discussion questions, and lead a class discussion. Students may have a full 25 minutes for this presentation[1].

The following are the **key dates** and elements surrounding Seminar 2:

Proposal Due:	Monday, October 9th (in class)
Summary Due:	send to instructor electronically by noon **two days (2) BEFORE** your seminar; Instructor to distribute electronically to the class
Seminar Dates:	as shown on course schedule; assigned in class on Sept 16th;
Paper Due:	**Wednesday, December 5th, 2013**

The total marks for these components are shown on the course outline. Overdue papers will be penalized 10% per academic day or part thereof. There will be no opportunity to make up a missed seminar presentation.

Proposal

Topics for papers are of your choosing, but should be situated within the context of the course's main themes. It is likely that your chosen topic will require you to take a position, so don't be afraid to do so. On the following page is a list of topics that might help steer you, but you are not bound to choose from this list (read: I encourage you to think outside the list). Submit a **one-page** proposal that details the nature of the research you intend to do (*submissions over 1 page will be returned unmarked*). It should include the following elements:

- tentative paper title
- key arguments you intend to make in the paper (ie., your position on this issue)
- a paragraph or two summarizing the ideas you intend to explore

[1] Time estimates subject to change if class enrollment increases beyond 20 students.

- list at least 3 journal articles that will be used (no internet references)

Summary

Each student **MUST** prepare a one-page (500-word) summary and set of three or four discussion questions. These questions **MUST** be made available **two days prior** to your scheduled seminar date. This way every student in the class will be able to read your summary before your presentation. Students in the class will be expected to read your summary before class and **come prepared with questions and/or ideas** that they can use in the discussion. Please send your summary as an email attachment (in Word or pdf format) to the instructor by **noon two days prior** to your seminar. *It is your responsibility to ensure that the instructor has successfully received your summary.*

Paper

Prepare and submit a paper of at least 2500 words and less than 4000 words (word count does not include space devoted to references, figures and tables, and a copy of your summary). **Do not forget to clearly define your position on the issue.** All papers are to be fully referenced using the author-date style of referencing (e.g., Burn and Mackay 2002). Helpful writing and formatting suggestions can be obtained from Northey and McKibbin (2002) – on reserve – or from the Geography Department's Undergraduate Thesis Manual (see http://geography.lakeheadu.ca/thesis.html). Be sure to include a 'word count' on your cover page.

Seminar Presentation and Discussion

Each presenter will be allotted 15 or 25 minutes for their seminar (up to 25 minutes for #2 is possible). How you use this time is up to you, but remember (in the case of Seminar #2) that you will have an audience who has already "read up" on your topic as they have read through your summary. You might allocate time (~10 minutes) to a formal presentation, followed by a student-led discussion around a series of prepared questions. You might also collaborate with a classmate presenting on a similar course theme to lead a class discussion or activity.

Evaluation and Feedback

Peer assessment will be used to help evaluate the summary and the seminars. Forms for peer assessment will be provided by the Instructor. The last few minutes of each seminar will be used for evaluation. The paper will be evaluated solely by the instructor.

Audience Expectations

Outside of your own seminars, you will be a member of the audience and discussion group. As an audience member, you will be expected to READ THE SUMMARIES BEFORE EACH SEMINAR and come to class ready to participate in a class discussion and ask questions. Participation marks will be higher for those students who contribute to the discussion on a regular basis. **Above all, remember that this is your course and you are largely responsible for making it a successful and interesting learning experience.**

SEMINAR TOPICS – SUGGESTIONS ONLY (You may choose the focus)

Below are some potential topics; there are ***numerous others*** that would be appropriate.

1. *Sustainability Indicators*

Are expert derived indicators better than stakeholder derived indicators?

2. *Sustainable Urban Development / Sustainable Universities*
   - Compact city debate
   - Eco-villages
   - Measuring urban sustainability
   - Sustainable community initiatives in Canada and elsewhere
   - How dense is too dense for the sustainable city?
   - Retrofitting or rejuvenating suburban North America
   - Is high-density condo living the path to sustainable cities?
   - How sustainable is "Places To Grow" and related legislation?
   - Is the Talloires Declaration leading to sustainable practice?
3. *Sustainable Transportation*
   - Neighbourhood traffic calming programs
   - Application of Calthorpe's TOD model to an existing community
   - Metropolitan transit services
   - Accessibility and social justice associated with freedom to move
4. *Sustainable Energy Systems*
   - Viability of wind or solar power initiatives
   - Energy storage
   - Solar energy planning in existing urban/rural environments
   - Geothermal energy systems at the building and neighbourhood scales
   - Feed In Tariffs and UK's new Heat Feed in Tariff
5. *Waste Management*
   - Life cycle assessment
   - Recycling programs are not doing enough
   - Eco-cemeteries
   - Is extended producer responsibility the answer to minimizing waste?
6. *Water and Wastewater*
   - Greywater recycling systems
   - On-site stormwater management
   - Application of Living Machine technology to residential neighbourhoods
7. *Sustainable Agriculture / Landscaping*
   - Conflicts arising between urbanization and farmland
   - Arguments for buying local organic produce
   - How to get away from reliance on California
   - Farming within urban areas
   - Naturalizing urban green spaces: tasks and barriers
   - Greenbelts as agricultural and natural area reserves
8. *Achieving Sustainability*
   - Marketing of LEED buildings
   - Quieting the consumer economy
   - Alternative lifestyles (e.g., Voluntary Simplicity)
   - Social and economic implications of a sustainable future
   - Reducing personal energy and resource consumption
   - Community based social marketing