

school of urban and regional planning @ ryerson university

PLE835 Ecological Design

Wednesdays 13-16h SBB 312 Studio

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Office Hours: Wed. 10-12h SBB 420

LEARNING

CALENDAR DESCRIPTION

PLE 835 is a professional elective course that will examine critically and in depth the concept, theory and practices of ecological design. As an emerging interdisciplinary field influenced principally by environmental planning, architecture, and landscape studies, ecological design is one of several evolving and critical approaches to navigating the interface between culture and nature. As such, this course will explore the connections between ecological science, cultural ecology and land-use planning in the context of design for urban landscapes. Through lectures, seminars and a practical exercise tied to a specific site on Toronto's waterfront undergoing re-development, we will examine how the interdependent and dynamic relationship between ecology and planning can be creatively harnessed in the design of urban landscapes and their built forms. Students will study the nature and context of landscape as design inspiration for projects at various spatial scales, including buildings, sites, communities and regions, through which they will explore a range of ecological design approaches.

LEARNING OBJECTIVES

The specific learning objectives for *PLE835 Ecological Design* are to:

- explore the theory of ecological design through a diversity of perspectives, meanings, ideologies, critiques of, and rationales for this set of approaches within planning;
- consider the relationship and interface between culture(s) and nature(s) as a context for design;
- become familiar with the interdisciplinary roots of ecological design, through studying contributions in the fields of landscape studies, landscape architecture, architecture, cultural geography, ecology, and environmental planning;

- examine critically the breadth and range of sciences that inform ecological design, and gain an understanding of scientific uncertainty as it pertains to the planning and design process;
- consider various strategies and media for effective communication of images, criteria and typologies of ecological design;
- critically examine ecological design typologies (e.g. green development, eco-revelatory art, etc.) through exposure to a range of practices and applications via case studies; and
- “learn by doing” through undertaking and communicating an ecological design exercise for a specific urban site.

CURRICULUM: LECTURE SCHEDULE & STUDY PLAN

The course is organised into three broad sections that will cover respectively the *history, theory and context, analyses of current practice, and critiques and emerging practices* of ecological design. The schedule of lectures and accompanying **required** readings is available as a PDF document: PLE835 Curriculum. This and all other course documents are also posted to the course Blackboard site at my.ryerson.ca.

REQUIRED READING

The **required** text for this course is:

Saunders, William S. (ed.) 2008. *Nature, Landscape and Building for Sustainability: A Harvard Design Magazine Reader*. Minneapolis, MN: University of Minnesota Press. 201 p. Call # [SB472.45 .N38 2008](#)

The text is available in the Ryerson University Bookstore and on Amazon.ca.

To complement to the course text, there are weekly **required** readings which have been drawn from a variety of sources, including academic journals, essay texts, design reviews, government documents, popular press and news publications. Additional materials may be assigned on occasion throughout the term. All materials assigned will be made available on eReserve or in print for short-term loan in the Ryerson library. ***Students are expected to come to class prepared for debate and informed discussion by having read the assigned material in advance.*** This is an advanced (senior-year) seminar course, and as such, the collective learning experience will depend largely on the initiative and diligence of each student in becoming *actively* conversant in the course material. At a minimum, readings are an important complement to the lecture and design material and you will need to draw on the information in readings and lectures to be able to complete the assignments satisfactorily.

REFERENCES

The following list of suggested references is offered as a starting place for research in ecological design. Additionally, there are a number of texts that are strongly recommend for those students keenly interested in ecological design. These are indicated in the suggested references below by an asterisk (*), and these texts are on short-term loan in the Ryerson library.

books

- Aberley, D. (ed.), 1994. *Futures By Design: The Practice of Ecological Planning*. Gabriola Island, B.C.: New Society Publishers. 214 p.
- Abrams, J. & P. Hall (eds.), 2005. *Else/Where – Mapping*. Minneapolis: University of Minnesota Press.
- Alexander, C. 2002. *The Nature of Order: An Essay on the Art of Building and the Nature of the Universe*. London: Taylor & Francis.
- Archibugi, F. 1997. *The Ecological City and the City Effect: Essays on the Urban Planning Requirements for the Sustainable City*. Aldershot: Ashgate. 243 p.
- Bang, J. M. 2005. *Ecovillages: A Practical Guide to Sustainable Communities*. Gabriola Island: New Society Publishers. 284 p.
- Barton, H., G. Davis & R. Guise, 1995. *Sustainable Settlements: A Guide for Planners, Designers and Developers*. Bristol: University of West England and the Local Government Management Board. 260 p.
- Beatley, T. 2000. *Green Urbanism: Learning from European Cities*. Washington, D.C.: Island Press. 491 p.
- Beatley, T. & K. Manning, 1997. *The Ecology of Place: Planning for Environment, Economy and Community*. Washington, D.C.: Island Press. 265 p.
- Benyus, J. 1997. *Biomimicry: Innovation Inspired by Nature*. New York: William Morrow. 308 p.
- Bormann, F.H., D. Balmori & G.T. Gebelle, 1993. *Redesigning the American Lawn: A Search for Environmental Harmony*. New Haven: Yale University Press. 166 p.
- Braun, B. & N Castree (eds.) 1998. *Remaking Reality / Nature at the Millennium*. London: Routledge. 295 p.
- Corner, J. (ed.) 1999. *Recovering Landscape: Essays in Contemporary Landscape Architecture*. New York: Princeton Architectural Press. 287 p.
- Coté, R., J. Tansey & A. Dale (eds), 2005. *Industrial Ecology: A Question of Design*. Vancouver: UBC Press.
- *Cronon, W (ed) 1996. *Uncommon Ground: Rethinking the Human Place in Nature*. New York: Norton. 561 p.
- Czerniak, J. & G. Hargreaves (eds.) 2007. *Large Parks*. New York: Princeton Architectural Press.
- Eckstein, B. & J. Throgmorton (eds.) 2003. *Story and Sustainability: Planning, Practice & Possibility for American Cities*. Cambridge: MIT Press.
- Edwards, B. (ed.) 1998. *Green Buildings Pay*. London: E&FN Spon. 134 p.
- Graedel, T.E. & B.R. Allenby, 1995. *Industrial Ecology*. New Jersey: Prentice Hall. 412 p.
- Groth, P. and T. W. Bressi (eds). 1997. *Understanding Ordinary Landscapes*. New Haven: Yale University Press.
- Hayden, Dolores. 1995. *The Power of Place*. Cambridge: The MIT Press.
- *Hester, R. 2006. *Design for Ecological Democracy*. Cambridge: MIT Press.
- Higgs, E. 2003. *Nature By Design: People, Natural Process, and Ecological Restoration*. Cambridge, MA: MIT Press
- Hough, M., 1995. *Cities and Natural Processes*. London: Routledge. 326 p.
- Honachefsky, W.B. 1999. *Ecologically-Based Municipal Land Use Planning*. New York: Lewis. 256 p.
- Jackson, J. B. 1984. *Discovering the Vernacular Landscape*. New Haven, CT: Yale University Press.
- *Johnson, B. & K. Hill (eds) 2002. *Ecology and Design: Frameworks for Learning*. Washington DC: Island Press. 530 p.
- Kellert, S. R. 2005. *Building for Life: Designing and Understanding the Human-Nature Connection*. Washington DC: Island Press.
- LeGates, R. & F. Stout (eds.) 1996. *The City Reader*. New York: Routledge.
- Leitmann, J., 1999. *Sustaining Cities: Environmental Planning and Management in Urban Design*. New

- York: McGraw-Hill. 412 p.
- Lyle, J. T. 1999. *Design for Human Ecosystems: Landscape, Land Use and Natural Resources*. Washington, D.C.: Island Press. 279 p.
- Lyle, J. T. 1985. *Regenerative Design for Sustainable Development*. New York: Wiley. 338 p.
- Makhzoumi, J. & G. Pungetti, 1999. *Ecological Landscape Design and Planning: The Mediterranean Context*. London: E & F Spon. 330 p.
- Marras, A. (ed.) 1999. *Eco-Tec: Architecture of the In-Between*. New York: Princeton Architectural Press. 137 p.
- May, M. 1993. *To Build the Compact Green City*. St. Petersburg: Smart Ltd. 261 p.
- McDonough, W. & M. Braungart, 2002. *Cradle to Cradle: Remaking the Way We Make Things*. New York: North Point Press. 193 p.
- McHarg, I. 1969. *Design with Nature*. New York: Wiley. 198 p.
- McHarg, I. & F. Steiner (eds.) 1998. *To Heal The Earth: The Selected Writings of Ian McHarg*. Washington: Island Press. 381 p.
- McLennan, J. 2004. *The Philosophy of Sustainable Design*. Kansas City: Ecotone Books. 324 p.
- Merchant, C. 1980. *The Death of Nature: Women, Ecology and the Scientific Revolution*. New York: Harper-Collins. 348 p.
- Merchant, C. 2004. *Reinventing Eden: The Fate of Nature in Western Culture*. New York : Routledge. 308 p.
- Motloch, J. 2001. *Introduction to Landscape Design*. (2nd Edition.) New York: Wiley. 369 p.
- Nassauer, J. I. 1997. *Placing Nature: Culture and Landscape Ecology*. Washington DC: Island Press. 179 p.
- Ndubisi, F. 2002. *Ecological Planning: A Historical and Comparative Synthesis*. Johns Hopkins University Press. 287 p.
- Orr, D. 2002. *The Nature of Design: Ecology, Culture, and Human Intention*. Oxford: Oxford University Press.
- Perlman, D. L. and J. C. Milder, 2004. *Practical Ecology for Planners, Developers, and Citizens*. Washington DC: Island Press.
- Platt, R.H., R.A. Rowntree, & P. C. Muick (eds.) 1994. *The Ecological City: Preserving and Restoring Urban Biodiversity*. Amherst: University of Massachusetts Press. 291 p.
- Porteous, J.D. 1996. *Environmental Aesthetics: Ideas, Politics and Planning*. London: Routledge. 290p.
- Potteiger, M. & J. Purinton, 1998. *Landscape Narratives: Design Practices for Telling Stories*. New York: Wiley.
- Rocky Mountain Institute, 1998. *Green Development: Integrating Ecology and Real Estate*. New York: Wiley. 522 p.
- *Rogers, R. 1998. *Cities for a Small Planet*. London: Faber & Faber. 180 p.
- Roots, B.I., D.A. Chant & C.E. Heidenreich, 1999. *Special Places: The Changing Ecosystems of the Toronto Region*. Vancouver: UBC Press. 342 p.
- Roseland, M. (ed.) 1997. *Eco-City Dimensions: Healthy Communities, Healthy Planet*. Gabriola Island: New Society Publishers. 212 p.
- Ruano, M. 1999. *Eco-Urbanism: Sustainable Human Settlements: 60 Case Studies*. Barcelona: Editorial Gustavo Gili, S.A. 192 p.
- *Saunders, W. S. (ed.) 2008. *Nature, Landscape and Building for Sustainability: A Harvard Design Magazine Reader*. Minneapolis, MN: University of Minnesota Press. 201 p.
- Soper, K. 1995. *What is Nature? Culture, Politics and the Non-Human*. Oxford: Blackwell. 289 p.
- Spaid, S. 2002. *Ecovention: Current Art to Transform Ecologies*. Cincinnati OH: The Contemporary Arts Centre. 153 p.
- Spirn, A. 1984. *The Granite Garden: Urban Nature and Human Design*. New York: Basic Books. 334p.
- Spirn, A. 1998. *The Language of Landscape*. New Haven: Yale University Press. 326 p.
- Steiner, F. R. 2008. *The Living Landscape: An Ecological Approach to Landscape Planning. Second Edition*. Washington, DC: Island Press. 356 p.
- Steiner, F. R. 2002. *Human ecology: Following Nature's Lead*. Washington DC: Island Press, 237 p.
- Stitt, F.A. (ed.) 1999. *Ecological Design Handbook: Sustainable Strategies for Architecture, Landscape Architecture, Interior Design, and Planning*. New York: McGraw-Hill. 467 p.
- Thompson, G.F. & F. R. Steiner (eds.) 1997. *Ecological Design and Planning*. New York: Wiley. 348 p.
- Todd, N. J., 2005. *A Safe and Sustainable World: The Promise of Ecological Design*. Washington DC: Island Press. 203 p.
- *Tufte, E. 2006. *Beautiful Evidence*. Chesire, Connecticut: Graphics Press.
- Tufte, E. 1991. *Envisioning Information*. Chesire, Connecticut: Graphics Press.

- *Van der Ryn, S. & S. Cowan, 1996. *Ecological Design*. Washington, D.C.: Island Press 201 p.
- Van der Ryn, S. and P. Calthorpe (eds.) 1986. *Sustainable Communities: A New Design Synthesis for Cities, Suburbs, and Towns*. Sierra Club Books: San Francisco. 238 p.
- Waldheim, C. 2006. *The Landscape Urbanism Reader*. New York: Princeton Architectural Press.
- *Waltner-Toews, D. J. Kay & N-M. Lister (eds.) 2008. *The Ecosystem Approach: Complexity Uncertainty and Managing for Sustainability*. New York: Columbia University Press. 383 p.
- Wilson, A. 1991. *The Culture of Nature: North American Landscape from Disney to the Exxon Valdez*. Toronto: Between the Lines. 335 p.
- Yeang, K. 2005. *A Manual for Ecological Design*. New York: Wiley. 248 p.
- Yeang, K. 1995. *Designing With Nature: The Ecological Basis for Architectural Design*. New York: McGraw-Hill. 243 p.

selected journals

Alternatives	Journal of Landscape Architecture
Ecological Applications	Journal of Architecture & Planning
Ecology & Design in Landscape	Journal of Urban Design
Environmental Design	Land Use Policy
Environmental Management	Landscape and Urban Planning
Environmentalist	Landscape Architecture
Environment and Behaviour	Landscape Design
Environment and Ecology	Landscape Journal
Environment and Planning B: Design	Landscape Research
Environments	Landscape Ecology
Ethics, Place and Environment	Places
Harvard Design Magazine	Plan Canada
Human Ecology	Praxis – Journal of Writing & Building
Journal of Applied Ecology	Spacing Magazine
Journal of Environmental Management	Urban Design International
Journal of Envir. Planning & Management	Urban Ecology
Journal of Industrial Ecology	Urban Ecosystems
Journal of the American Planning Assoc.	

CONDUCTING

COURSE INSTRUCTION MODES

This is an advanced lecture and seminar format course that meets once weekly for three (3) hours. The class period consists of a lecture followed by a discussion of the weekly, required reading material through student-led seminars. As a vital complement to lectures, the discussion period provides a forum for debate and critical reflection on the readings and on-going project work, and as such, offers fertile ground for exchange of ideas. This period is a time for students to affect directly the quality of their learning experience, both collectively and individually.

COURSE REQUIREMENTS & RESPONSIBILITIES

It is the responsibility of every student to attend the lectures, seminars, and discussion/workshop sessions, and to complete the required reading prior to the lecture and/or seminar discussion for which it is assigned. Successful completion of PLE835 will require regular attendance at classes and seminars; thorough

reading of all assigned materials; and the completion and submission of all assignments and a final exam. There are four graded components that comprise the course requirements for PLE835. The assignment handouts will be posted to Blackboard at *my.ryerson.ca* and discussed in class, and they explain in detail what is expected for the assignment and the criteria to be used in evaluation. The assignments are summarised here under EVALUATING.

COMMUNICATING

PLE835 has a dedicated Blackboard site available to each registered student at *myryerson.ca*. All course materials are posted here and any announcements will be made through the Announcement Board. Students are encouraged to use the Discussion Board to post questions and problems for class discussion. Prof. Lister is also available for in-person consultation during posted office hours (or by appointment if you cannot come during office hours). If you find you are having difficulty, *please speak with me in person before the problem grows out of control.*

*E-mail is the preferred means of communication for the purpose of making appointments or questions of clarification **only**.* Detailed or substantive questions about assignments or grades should be dealt with *in person*. Keep in mind that your professors often receive a high volume of email and it is increasingly difficult and often impossible to respond to everything. Important messages are often best followed up by phone or in person to ensure a timely response.

All students are required by Ryerson University to maintain an active Ryerson student e-mail account, as any school or course communication sent by e-mail will use **ONLY** these e-mail addresses. *Any e-mail sent from a non-Ryerson account will be deleted by Ryerson's junk mail filters.* For further details, see Ryerson University's policy on the *Establishment of Student E-Mail Accounts (Policy 157)* at: <http://www.ryerson.ca/senate/policies/>

SUBMITTING ASSIGNMENTS

Assignments are to be completed on time and submitted to Professor Lister in person at the class when due. *Under **no** conditions are students to slip assignments under a faculty member's office door.* If you are away, assignments may be submitted through one of the drop-slots on the 3rd floor, where they will be collected daily by the Departmental Assistant, stamped with the submission date and put into your Professor's mailbox. Late assignments will be penalised in accordance with School policy at the rate of *5% per day*. Extensions for reasons of illness require a medical certificate, as outlined in the *School of Planning Handbook*. Please note that ***no work will be accepted for evaluation after the last day of classes.***

ACADEMIC INTEGRITY

Ryerson University values academic integrity, which is the cornerstone of the University, of *academe*, and of higher learning in general. To protect and uphold academic integrity, it is the responsibility of each professor to teach, exemplify and discuss issues of academic honesty in the classroom. It is the corresponding responsibility of each student to learn and understand what constitutes honest research and to be able to demonstrate the originality of his or her work if called upon to do so. (For example, at any time you may be asked to explain your work, as feedback and review are essential parts of learning.) *At a minimum, for every assignment, the sources of all data and ideas must be properly referenced using a standard academic referencing style. The failure to reference an assignment properly may constitute plagiarism, resulting in required academic penalties.* Each student is expected to be familiar with Ryerson University's *Student Code of Academic Conduct (Policy 60a at www.ryerson.ca/~acadpol/policies.html)* as it governs all issues of academic integrity including all penalties, disciplinary decisions and appeals processes. For further information and an on-line tutorial, students are encouraged to visit the University's Office of Academic Integrity at www.ryerson.ca/academicintegrity/

COURSE CHANGES

Any changes to the course syllabus will be discussed in class prior to being implemented.

COURSE MANAGEMENT POLICY

The *Planning Handbook* describes the University's course management policy in detail, and is given to every student in the School of Urban & Regional Planning. See also: www.ryerson.ca/~acadpol/policies.html (Policy 145).

COURSE SURVEY

A survey of course substance and instruction quality is required by the University and must be completed by all students over a period during two weeks in November. Students will receive advance notice of the survey dates.

EVALUATING

EVALUATION SCHEME

Student performance in PLE835 will be evaluated according to this scheme:

Assignment	Type	Due	Weight
1. Brickworks Site Analysis	Individual, written	Oct. 8	20%
2. Seminar <i>Concept critique & discussion</i>	Individual, oral & written	Choice of date	20%
3. Reading Journal	Individual, written	randomly + final Nov. 26	20%
4. Ecological Design Project <i>Presentation (Oral & Visual) = 10%</i> <i>Submission (Written & Graphic) = 20%</i> <i>Individual Contribution = 10%</i>	Team, multi- media	Nov. 19	40%
TOTAL			100%

EVALUATION CRITERIA

Each assignment will be evaluated according to specific criteria explained in detail in the assignment instructions. In general, these include:

- adherence to assignment instructions and satisfaction of specific assignment objectives;
- presence of required components/features;
- creativity and originality;
- visual communication (clarity, readability, choice of medium, justification of choice etc.);
- graphic technique or artistic interpretation as applicable;
- ability to stimulate discussion and/or respond to questions as applicable;
- presentation of the work, articulation and defence of a thesis in the work;
- analysis (factual precision and logic);
- background research, use of and influence of research on the work; and
- quality and citation of references.

All criteria are weighted equally in the marking scheme unless otherwise noted. In addition to oral comments during presentations, students will receive written comments and a completed *Feedback & Evaluation Form* with each marked assignment. This form is intended as a means of enriching communication between the professor and the student, while holding both of us accountable for the grade assigned.