

ECOLOGICAL DESIGN + PLANNING

IARC 363 / 563 – spring 2017

M | W 1030 – 1150, Gould 110
F 1030 – 1120, Gould 114 (563 only)

Instructor: Ken Yocom
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Fri, 1200 – 100 pm (online sign up)

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Mon, 1200 – 100 pm

“Creativity requires the courage to let go of certainty.”

-Erich Fromm

WEBSITE

<https://canvas.uw.edu/courses/1140144>

INTRODUCTION

The roots of the word ‘ecology’ (oekologie) are derived from the combination of the Greek terms, ‘oikos,’ which in literal translation means ‘dwelling’ or ‘house,’ and ‘logos,’ meaning ‘study.’ Thus, when German biologist Ernst von Haeckel coined ‘oekologie’ in 1866 to define his scientific work it became the study of the ‘household of nature.’ However, over subsequent decades, the field and discipline emerged as a relatively static study of nature and relationships isolated from human influence. In this regard, humans were considered distinct, or separate, from nature. While this approach to the science of ecology and understandings of nature perpetuated throughout much of the first half of the 20th century, more recently a paradigm has emerged and is being explored, developed, and pushed that seeks to understand and incorporate the richness of an inclusive approach for defining the ‘household of nature.’ This dynamic approach to building understanding of our contemporary world seeks integration, embraces complexity, and anticipates change. We now understand that there are few if any places on the planet that have not been impacted by human actions, and to many our greatest challenge as a global society will be addressing the issues of climate change and associated impacts primarily created by our own actions.

As burgeoning designers and managers of the landscape, you are initially trained to see, feel, and understand our surroundings through form. This course seeks to add depth to this perspective by pushing you to view the world as an unbounded series of integrated and interlocking systems that establish the foundations of the functioning landscape. In this, we will be exploring questions about what components comprise an ecosystem, how the ecosystem operates, and why seemingly small interventions can have dramatic impacts.

As a diverse, dynamic, and emerging field of study that is often two steps ahead of public understanding and one step behind public need, developing modes and models for incorporating this knowledge into the design of our built environments is critical. While we will primarily focus on landscape ecological theory and principles, new ideas and concepts are constantly emerging about the relationships between landscape process, pattern, and context. Thus, this class will explore explicit relationships between functional processes and the form of built environments. Lectures and presentations will focus on the implications of recent work in landscape ecology and conservation biology for application in the development of design theory and practice in landscape architecture.

LEARNING OBJECTIVES

Students will have opportunities to:

- (1) develop the basic understanding of ecological theory and processes relevant to the design process,
- (2) develop and apply skills for critically examining contemporary landscape conditions,
- (3) attain an overview of relevant projects and practices that incorporate ecological thinking into design,
- (4) develop methods for exploring, understanding, and appreciating the complexity of their surrounding environments.

COURSE DESCRIPTION

This course is offered as a curriculum selective for *many* students in the undergraduate and graduate landscape architecture programs. This course is designed as lecture-based; however, exercises in and outside of the classroom, field trips and university-wide or public lectures are used to increase the level of interaction. Questions and discussion during class time is encouraged, particularly questions related to the relevance of the course material to design.

The class is developed in conjunction with the companion studio, LArc 303, Ecological Systems Studio. Assigned exercises are to be completed independently of the studio, but students enrolled in both courses are encouraged to explore opportunities for feedback and synthesis between studio (la303) and seminar (la363/563) exercises. However, *non-majors* and those not enrolled in the studio are also *welcome* in the course.

I aspire to create a classroom environment that encourages and welcomes different perspectives. How do we learn anything in the absence of robust engagement with ideas and perspectives that differ from our own? Respect for different perspectives and the people who express them does not necessarily mean agreement with them; at a minimum, it means that we should cultivate gratitude for the opportunity to re-examine our cherished habits of thought.

COURSE REQUIREMENTS

Class Assignments, Grading, and Attendance Policy

Students are expected to participate in class discussions, complete the required and recommended readings, turn in all exercises and assignments by the due date, and be prepared at a moment's notice to present their ideas + work in class. Grades (4.0 scale) will be determined based on the level of effort, participation, and insight students bring to the course. Creative exploration and application of the concepts and principles presented in class is strongly encouraged and will be reflected in the earned grade.

For 363 students, there are two potential options for taking this course. The choice is yours; however, there is no mix and matching the tracks. You must complete all the requirements of a single track. *All 563 students will follow the course through Track A.*

Track A

- 1) *Mid-Term Exam: (20%)*
All students in the course will take the mid-term exam scheduled for **Monday, May 01**. The exam, offered in class, will test knowledge and comprehension of information provided in lecture and through required readings.
- 2) *Paper: (40%)*
Students will work to research and compose a paper on an ecological design application of their choosing. The paper should be structured to present and examine the issue (problem statement), the process being explored, the design development and application (solution(s)), and provide a precedent comparison/critique of no less than two ecological design + planning projects that

have incorporated the application/topic. Specific direction may include exploration of the spatial and temporal patterns and processes, the cultural influences and associations, the functions and services provided by the process, as well as realized/potential design applications in urban environments. **A paper proposal/abstract is due for evaluation on Monday, April 24, and the final paper will be due in an electronic format on June 07 by 5:00pm.**

1) *Field Trips* (25%)

You must participate in no less than two (2) of the four (4) field trips offered during the class and do the associated assignment. The assignments are **due within 7 days** of the fieldtrip. The field trip options are:

Bullitt Center – SEA Streets – Olympic Sculpture Park – Ravenna Creek Restoration
Check schedule for dates/details.

3) *Outside Seminar* (5%)

You must participate in one (1) activity outside of class time. The seminar/talk/activity can be any presentation or work event that has relevance to the course material. You will submit a short reflection on the seminar/talk/activity, **due within 7 days**. The reflection should fit on one piece of paper and provide thoughtful insight about what you learned *in relation to* the concepts presented in the course.

4) *Participation* (10%)

You are required to attend class, be awake if not engaged, and participate in classroom discussions. Respect for active and engaged learning must be given at all times to faculty, guest lecturers, and fellow classmates. Participation with in class and out of class (field trips) exercises will be examined and incorporated into this portion of the overall grade.

Track B

2) *Mid-Term Exam*: (20%)

All students in the course will take the mid-term exam scheduled for **Monday, May 01**. The exam, offered in class, will test knowledge and comprehension of information provided in lecture and through required readings to this point in the term.

3) *Final Exam*: (30%)

You will take the final exam, scheduled for **Monday, June 05, 1030 am** (time and day may change). The exam will test knowledge and comprehension of information provided in lecture and through required readings across the entire term.

4) *Brochure*: (10%)

You will produce an 11x17" poster or tri-fold brochure of a PNW ecosystem/habitat type, ecological design project, or ecological process of your choosing. The brochure will be due on **June 05**, prior to the beginning of the final exam. Details for this assignment will be handed out in class in the next several weeks.

5) *Field Trips* (25%)

You must participate in no less than two (2) of the four (4) field trips offered during the class and do the associated assignment. The assignments are **due within 7 days** of the fieldtrip. The field trip options are:

Bullitt Center – SEA Streets – Olympic Sculpture Park – Ravenna Creek Restoration
Check schedule for dates/details.

6) *Outside Seminar* (5%)

You must participate in one (1) activity outside of class time. The seminar/talk/activity can be any presentation or work event that has relevance to the course material. You will submit a short reflection on the seminar/talk/activity, **due within 7 days**. The reflection should fit on one piece of paper and provide thoughtful insight about what you learned *in relation to* the concepts presented in the course.

7) *Participation* (10%)

You are required to attend class, be awake if not engaged, and participate in classroom discussions. Respect for active and engaged learning must be given at all times to faculty, guest lecturers, and fellow classmates. Participation with in-class and out-of-class (field trips) exercises will be examined and incorporated into this portion of the overall grade.

GENERAL CONSIDERATIONS

It is essential that you participate fully in all classes. You are responsible for informing me if you miss a class due to illness, family emergency, or observance of religious holidays. Please alert me about difficulties, concerns or questions that may limit your ability to participate. A doctor or medical professional's note is required if you miss more than three classes.

If you have a disability that requires accommodations, please let us know right away or contact Disabled Student Services, 448 Schmitz, Box 355839
[\(206\) 543-8924](tel:2065438924), uwdss@u.washington.edu.

Safety

The University of Washington stresses that ensuring safety and preventing violence is a shared responsibility in which everyone at the UW plays a part. As a UW student and a participant in this course, you are expected to help make the campus a safe personal, work, and learning environment. For general information about University Washington resources, policies and violence reporting requirements, please visit the website <http://www.washington.edu/safecampus/>. For emergencies, dial 911.

Plagiarism

Properly cite all text and photographs used for class projects. If you have questions regarding proper citation protocols, do not hesitate to contact me. Plagiarism is outlined and described in the UW Student Conduct code and can be found here:
<http://www.washington.edu/admin/rules/policies/WAC/478-120TOC.html>

Disclaimer

Listening to other's views with an open mind and using direct communication will help foster a respectful and creative environment for all. Some readings, ideas, films, guest lecturers and projects presented in this course may challenge the opinions, experiences and/or beliefs of some individuals.

Remember that this course is an open forum in which we challenge assumptions and practice critical thinking, as well as give respect for all voices and diverse views.

READINGS

There are two required books for the 363 section of this class. The remaining readings are available on the course Canvas site. The 563 section of the class has an additional required book.

(BOLD = available at the University bookstore)

Required

Beck, Travis (2013) *Principles of Ecological Landscape Design* (Island Press: Washington D.C.)

(online access available through the UW Library system)

Dramstad, W.E., J.D. Olson, and R.T. Forman (1996) *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning* (Island Press: Washington D.C.)

(563 only) Ndubisi, F.O. (editor) (2014) *The Ecological Design and Planning Reader* (Island Press: Washington D.C.)

Recommended

Ahern, J, E. Leduc, and M.L. York (2006) *Biodiversity Planning and Design* (Island Press: Washington D.C.)

Hough, M. (2004) *Cities and Natural Processes: a basis for sustainability* (Routledge: New York)

Johnson, B.R. and K. Hill (2002) *Ecology and Design: Frameworks for Learning* (Island Press: Washington D.C.)

Palazzo, D. and F. Steiner (2011) *Urban Ecological Design: A Process for Regenerative Design* (Island Press: Washington D.C.)

Perlman, D.L. and J.C. Milder (2005) *Practical Ecology for Planners, Developers, and Citizens* (Island Press: Washington D.C.)

Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing : London)

Thompson, G.F. and F.R. Steiner (1997) *Ecological Design and Planning* (John Wiley & Sons: New York)

Van Der Ryn, S. and S. Cowan (2007) *Ecological Design, 10th Anniv. Ed.* (Island Press: Washington D.C.)

READING SCHEDULE / 363 + 563

Senge, P.M. and G. Carstedt (2001) *Innovating our way to the Next Industrial Revolution*, MIT Sloan Management Review, pp. 24-38

Week 1

Beck, T. (2013) *Principles of Ecological Landscape Design* (Island Press: Washington D.C.), Introduction – pp 1-5

Recommended: Reed, C. (2010) *The Agency of Ecology*, in *Ecological Urbanism* (Harvard University, Cambridge), pp.324-329

Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing: London), Chapter 01 - pp 6-33

Week 2

Beck, T. (2013) *Principles of Ecological Landscape Design* (Island Press: Washington D.C.), Chapter 04 – pp 89-106

Dramstad, W.E., J.D. Olson, and R.T. Forman (1996) *Landscape Ecology Principles in Landscape Architecture and Land-Use Planning* (Island Press: Washington D.C.), pp 9-48

Recommended: Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing: London), Chapters 02 + 03 - pp 34-81

Week 3

Platt, R.H. (2006) *Urban Watershed Management*, *Environment* 48:4, pp. 26-42

Recommended: Pawlyn, M. (2011) *Living Landscape*, *RSA Journal* 157:5548, pp 28-29

Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing: London), Chapter 05 - pp. 104-124

Week 4

Beck, T. (2013) *Principles of Ecological Landscape Design* (Island Press: Washington D.C.), Chapter 06 – pp 125-152 + Chapter 08 – pp 179-208

Recommended: Hough, M. (1995) *Cities + Natural Processes* (Routledge: New York), pp. 33-96

Week 5

Echols, S. and E. Pennacker (2008) *From Stormwater Management to Artful Rainwater Design*, *Landscape Journal*, 27:2, pp 268-290

Recommended: Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing: London), Chapter 06 - pp 126-169

Week 6

Ahern, J, E. Leduc, and M.L. York (2006) *Biodiversity Planning and Design* (Island Press: Washington D.C.), pp 3-22

Week 7

Apostal, D. (2006) *Restoring the Pacific Northwest* (Island Press: Washington D.C.), pp 11-25

Beck, T. (2013) *Principles of Ecological Landscape Design* (Island Press: Washington D.C.), Chapter 10 – pp

236-259

Recommended: The SER International Primer on Ecological Restoration (2004) Version 2, pp 1-13

Week 8

Perlman, D.L. and J.C. Milder (2005) *Practical Ecology for Planners, Developers, and Citizens* (Island Press: Washington D.C.), pp 187-216

Recommended: Rottle, N. and K. Yocom (2011) *Ecological Design* (AVA Publishing: London), pp 76-101

Week 9

Van Der Ryn, S. and S. Cowan (2007) *Ecological Design, 10th Anniv. Ed.* (Island Press: Washington D.C.), pp 168-182

Recommended: Swift, B. (2014) *The Spiral Jetty*. Available at: <http://arcadenw.org/blog/the-spiral-jetty>

Week 10

N/A

READING SCHEDULE / 563 only

The majority of readings are from *The Ecological Design and Planning Reader*. Any other readings are available on the Canvas site.

Week 1 / Introduction

Introduction to Part One (pp. 13-19)

David Lowenthal, "New Introduction" (excerpts), *Man and Nature; or, Physical Geography as Modified by Human Action* (1864) (pp. 33-50)

Week 2 / Basic Theory

Introduction to Part Three (pp. 163 – 168)

Richard T.T. Forman, "Foundations," *Land Mosaics: The Ecology of Landscapes and Regions* (1995) (pp. 217 – 236)

Forster Ndubisi, "Adaptation and Regeneration: A Pathway to New Urban Places", *Nature and Cities* (2016) (pp.190-211)

Week 3 / Method

Introduction to Part Five (pp. 335 – 340)

Ian L. McHarg, "An Ecological Method for Landscape Architecture," *Landscape Architecture* (1967) (pp. 341 – 347)

Nina-Marie E. Lister, "Resilience Beyond Rhetoric in Urban Landscape Planning and Design", *Nature and Cities* (2016) (pp.302-325)

Week 4 / Procedural Theory

Introduction to Part Four (pp. 237 – 242)

John Tillman Lyle, "Introduction," *Design for Human Ecosystems: Landscape, Land Use, and Natural Resources* (1985) (pp. 266 – 278)

Charles Waldheim, "The Landscape Architect as Urbanist of Our Age", *Nature and Cities* (2016) (pp.68-93)

Week 5

Kristina Hill, "Form Follows Flows - Systems, Design, And The Aesthetic Experience of Change", *Nature and Cities* (2016) (pp.344-359)

Week 6

Kongjian Yu, "Creating Deep Forms in Urban Nature: The Peasant's Approach to Urban Design", *Nature and Cities* (2016) (pp.94-117)

Week 7 / Emerging Frameworks

Introduction to Part Seven

Frederick Steiner, "Landscape Ecological Urbanism: Origins and Trajectories," *Landscape and Urban Planning* (2011) (pp. 533 – 540)

Chris Reed, "Projective Ecologies in Design and Planning", *Nature and Cities* (2016) (pp.326-343)

Week 8 / Looking Ahead

Conclusion: Maintaining Adaptive and Regenerative Places (pp. 572 – 596)

Jose Alminana and Carol Franklin, "Creative Fitting - Toward Designing the City as Nature", *Nature and Cities* (2016) (pp.148-189)

Week 9

NO CLASS

Week 10

NO CLASS