

Ecological Design for Contemporary Crises

Andrew Niess

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OVERVIEW

This course proposes *ecological thinking* and *design thinking* as methods for contending with local ecological problems. In weekly discussions, you will learn to think ecologically about and design thoughtful solutions to such problems by engaging the work of scientists, philosophers, Indigenous thinkers, and designers. You will study principles of ecological thinking—relationality, systems thinking, second-order learning—and understand design as a practice of intentional problem-solving. You will mobilize this critical inventory to design a project that identifies a local ecological problem and proposes an intervention. This 15-week course encourages you to take the time necessary to thoughtfully *propose*, rather than *implement*, your project.

RATIONALE

Contemporary ecological crises pose immense challenges to all forms of life. The enormity of these problems can paralyze us with fear and confusion. We all need practice identifying, thinking about, and designing solutions to pressing ecological problems. It is imperative to value the land and life of the campus, especially when many US university students are from out of state or from other countries and have little connection to the land. In the face of individualism and consumerism, this course challenges you to mobilize your knowledge as well as your university's resources toward creating sustainable and equitable futures for the campus's life and land.

Finally, this course's focus on *proposing* a project is intended to complement Andrew's course on Audiovisual Climate Research, which will focus on collaboratively *implementing* a public-facing project as a class.

LEARNING OUTCOMES

By the end of this course, you will be able to:

1. Explain core principles of and approaches to ecological thinking.
2. Explain core principles of and approaches to design thinking.
3. Mobilize ecological and design thinking to propose an intervention to a local ecological problem.











ASSIGNMENTS & EVALUATION

You will be evaluated on the following assignments that are designed to guide you toward the above learning outcomes.

5 %	Identify Possible Problems
	Goal: identify three local ecological problems while citing databases provided to you.
	Due: session 3
5 %	Problem Selection
	Goal: select one problem that you will think about throughout the course and state a possible intervention
	Due: session 4
20 %	Apply Ecological Framework
	Goal: demonstrate your understanding of ecological thinking by applying three principles to your problem in 1,000 words.
	Due: session 8
20 %	Apply Design Framework
	Goal: demonstrate your understanding of design thinking by applying three principles to your problem in a 1,000-word essay, a visualization/diagram, or non-textual format.
	Due: session 11
20 %	Small Group Shares
	Goal: informal check-in with classmates about new insights, questions, or problems pertaining to each other's proposal.
	Due: select weeks without another assignment, 4 total (sessions 5, 8, 10, 13)
30 %	Project Proposal
	Goal: synthesize your accumulated ecological and design thinking into a 3,500-word project proposal that summarizes the problem, reviews publicly available knowledge about the problem, applies ecological and design thinking, and states preferred outcomes.
	Due: last day of final exams

CALENDAR

MODULE 1: ECOLOGICAL THINKING

1	Introduction
	Review syllabus
	Identify values and behaviors to foster ideal classroom climate
2	Ecological Foundations
	Sotsisowah, "Our Strategy for Survival," in <i>Basic Call to Consciousness</i> , ed. Akwesasne Notes (Summertown, TN: Native Voices, 2005), 119–25.
	David Oates, "The Ecological Worldview," in <i>Earth Rising: Ecological Belief in an Age of Science</i> (Corvallis, OR: Oregon State University Press, 1989), 3–5.
	Adriana Petryna, "What Is a Horizon? Navigating Thresholds in Climate Change Uncertainty," in <i>Modes of Uncertainty: Anthropological Cases</i> , ed. Limor Samimian-Darash and Paul Rabinow (Chicago: University of Chicago Press, 2015), 161–64 (excerpt).
	Gregory Bateson, "Pathologies of Epistemology" and "The Roots of Ecological Crisis," in <i>Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology</i> (Chicago: University of Chicago Press, 1972), 486–95; 496–501.
3	Relationality
	Kim TallBear, "Caretaking Relations, Not American Dreaming," <i>Kalfou</i> 6, no. 1 (2019), 36–9 (excerpt), https://doi.org/10.15367/kf.v6i1.228 .
	<i>Media Indigena</i> , "Pollution is Colonialism: Part 1 (ep 258)", featuring Max Liboiron with Rick Harp and Candis Callison, https://mediaindigena.libsyn.com/pollution-is-colonialism-part-1-ep-258 .
	Dwayne Donald, "From What Does Ethical Relationality Flow? An Indian Act in Three Artifacts," <i>Counterpoints</i> 478 (2016), 10–16.
Due	Identify Possible Problems
4	Ecological Ethics
	David Oates, "Ecological Ethics," in <i>Earth Rising: Ecological Belief in an Age of Science</i> (Corvallis, OR: Oregon State University Press, 1989), 148–77.
	V. F. Cordova, "What is the Role of a Human Being?," in <i>How It Is: The Native American Philosophy of V. F. Cordova</i> , ed. Kathleen Dean Moore et al. (Tucson: University of Arizona Press, 2007), 183–5.
	Arne Næss, "The Shallow and the Deep, Long-Range Ecology Movement: A Summary," <i>Inquiry</i> 16, no. 1 (1973): 95–100, https://doi.org/10.1080/00201747308601682 .

Due Problem Selection

5 **Systems Thinking**



Margaret Mead, "Cybernetics of Cybernetics," in *Purposive Systems* (New York: Spartan Books, 1968), 1–11.



Donella H. Meadows, "Leverage Points—Places to Intervene in a System," in *Thinking in Systems: A Primer*, ed. Diana Wright (White River Junction, VT: Chelsea Green, 2008), 145–65.

Due Small Group Share

6 **Second-order learning**



Gregory Bateson, *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology* (Chicago: University of Chicago Press, 1972), 164–67.



Gregory Bateson and Margaret Mead, "For God's Sake, Margaret: Conversation with Gregory Bateson and Margaret Mead," *CoEvolution Quarterly* 10, no. 21 (1976): 32–44. Reprinted at <https://www.alice.id.tue.nl/references/bateson-mead-1976.pdf>, 12–14 (excerpt).



Daniel Belgrad, *The Culture of Feedback: Ecological Thinking in Seventies America* (Chicago: The University of Chicago Press, 2019), 12–13.

MODULE 2: DESIGN THINKING

7 **Design Foundations**



Liz Sanders, "On Modeling an Evolving Map of Design Practice and Design Research," *Interactions* 15, no. 6 (November 2008): 13–17, <https://doi.org/10.1145/1409040.1409043>.



Morten Hertzum, "Project Designs for Student Design Projects," in *Situated Design Methods*, ed. Jesper Simonsen et al. (Cambridge, MA: MIT Press, 2014), 25–39.



IDEO, "The Design Process," in *Design Thinking for Educators*, 2nd ed., 14–15.

Due Apply Ecological Framework

8 **Ethical Design**



Richard Buchanan, "Wicked Problems in Design Thinking," *Design Issues* 8, no. 2 (1992): 5–21.








Bodil Jönsson et al., "Ethics in the Making," in *The Design Philosophy Reader*, ed. Anne-Marie Willis (London: Bloomsbury Visual Arts, 2019), 98–103.

Due Small Group Share

9	Speculative and Critical Design
	Anthony Dunne and Fiona Raby, "Beyond Radical Design?," in <i>Speculative Everything: Design, Fiction, and Social Dreaming</i> (Cambridge: MIT Press, 2013), 1–7.
	Leon Karlsen Johannessen, "The Young Designer's Guide to Speculative and Critical Design," 2017, 1–12.
	James Auger, "Speculative Design: Crafting the Speculation," <i>Digital Creativity</i> 24, no. 1 (2013): 11–35.
10	Visualizing Design
	"Patrick Whitney on the value of abstracting design problems," IIT Institute of Design (2009), 3' 56", https://vimeo.com/5750600 .
	Jasper Liu, "Visualizing the 4 Essentials of Design Thinking," <i>Medium</i> (2016), https://medium.com/good-design/visualizing-the-4-essentials-of-design-thinking-17fe5c191c22 .
Due	Small Group Share

MODULE 3: PROJECT MODELS

11	Campus Agriculture
	Duke University Campus Farm, https://sustainability.duke.edu/farm .
	University of Maryland Farm, https://ansc.umd.edu/about/campus-farm .
	University of California, Santa Barbara Campus Farm, https://sustainability.ucsb.edu/campus-farm .
Due	Apply Design Framework
Guest	Kay Sterner, Farm Manager, Pomona College Organic Farm
12	Connecting College Resources to Meet Community Needs
	Urban Ecology Arts Exchange, https://collaboratives.haverford.edu/urban-ecology-arts-exchange/ .
	North Philly Peace Park, https://www.phillypeacepark.org/ .
	<i>Contemporary Black Canvas</i> , "Episode 21: Tommy Joshua," http://www.contemporaryblackcanvas.com/ep-21-tommy-joshua-founder-north-philadelphia-peace-park/ .
Guests	Li Sumpter (MythMedia Studios, Moore College of Art and Design) Joshua Moses (Haverford College) Tommy Joshua (North Philly Peace Park, Executive Director)

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Anticolonial Community Science



Civic Laboratory for Environmental Action Research (CLEAR), <https://civiclaboratory.nl/>



“Dr. Max Liboiron is changing how science is done,” MEOPAR, April 16, 2021, <https://www.youtube.com/watch?v=D5pStSuvFbw>.



Prakash Krishnan, “Collective Listening: CLEAR Soundscapes,” July 27, 2021, <https://civiclaboratory.nl/2021/07/27/collective-listening-clear-soundscapes/>.



Bojan Fürst, “How We Do Science,” 2016, project in participatory curation, <http://bojanfurstphotography.com/how-we-do-science>.

Due

Small Group Share

14

Proposal Workshop (One-on-one)

One-on-one appointments with Andrew to discuss your proposals before submission.

15

Proposal Workshop (Group)

Present for 5 minutes on your proposals and receive substantial group feedback.
