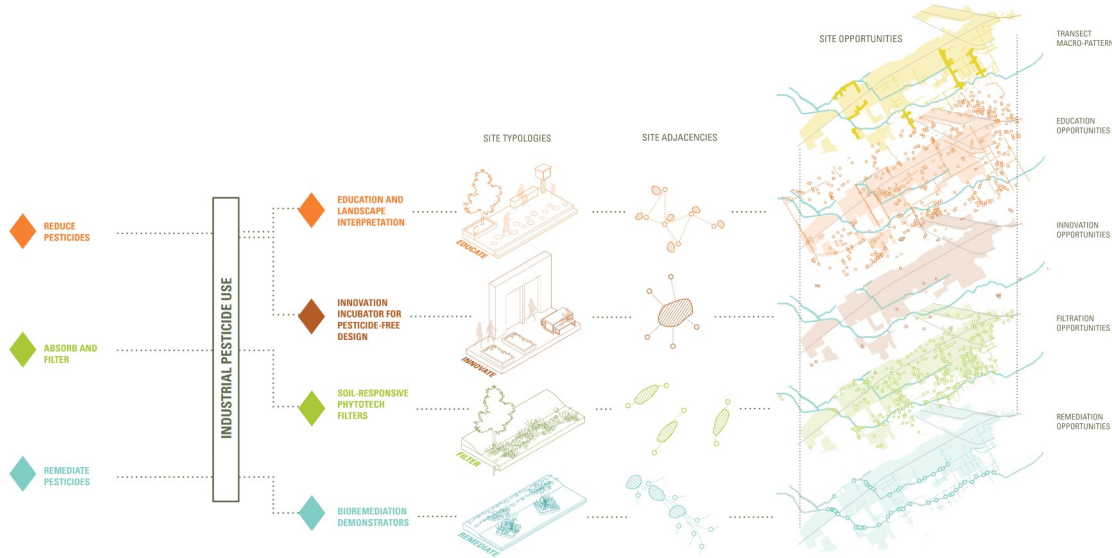


LA 610 Fall 2023

EMERGENT URBAN NATURES

CRN 12890 - Monday, Wednesday, Friday 1:00pm-4:50am in 312 LA Lawrence Hall

Instructor: Ignacio López Busón, ilopezbu@uoregon.edu (Office Lawrence 311)



Post-Pesticide Eugene. Fall 2020 LA539 Studio
J. Witzleben, G. Graham, N. Dorkina, D. Teller

“There are no separate systems. The world is a continuum. Where to draw a boundary around a system depends on the purpose of the discussion.”

— Donella H. Meadows, *Thinking in Systems*

COURSE DESCRIPTION:

Referring to cities, Nicholas de Monchaux stated in his book *Local Code* that “it is impossible to imagine physical resilience without social, cultural and economic resilience as well.” This also holds for the presence of nature in the urban realm. Unless landscape architects understand how social, cultural, and economic systems can affect and interweave with environmental systems, their role in shaping contemporary cities and the actual existence of urban natures will be at risk of becoming merely cosmetic. The value of urban green infrastructure is beyond question today, and it will continue to grow exponentially in a rapidly urbanizing world. Green infrastructure can take many shapes, and its impact varies greatly depending on its scale, implementation, and purpose: stormwater management, heat-island effect mitigation, mental health, local ecosystems, urban comfort, food production, air quality... Despite all these benefits, the ever-growing economic pressure in urban environments is a constant threat to the emergence of new bodies of nature. Consequently, understanding the multi-fold properties of green infrastructure and linking them to specific urban processes will be essential to guarantee their future existence.

This studio will focus on the study of symbiotic relationships between environmental, social, and economic phenomena in order to determine optimal locations for the potential design and development of green infrastructure within contemporary cities.



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CONTEXT:

Designing with systems is, by definition, both a multi-disciplinary and a multi-scalar challenge, and if specific goals are to be achieved, it is essential to know where to draw a boundary. For this studio's purpose, we will focus on urban and spatial systems in the city of Eugene (Oregon) as a way of answering why and where new bodies of nature could or should exist. To center the focus of this course, we will be analyzing natural and urban phenomena along Amazon Creek, "the largest and most complex waterway managed by the City of Eugene". The Open Waterway Maintenance Plans document developed by Eugene's Public Works department in 2014, outlines the environmental challenges the creek is undergoing today:

"Amazon Creek receives a significant amount of stormwater runoff from residential, commercial and industrial properties, associated roadways, and other impervious surfaces. Thus, water quality issues along the entire creek length are primarily related to non-point source pollution created from runoff from the urban environment. Throughout the basin this runoff has led to increased peak flows, increased erosion, and associated bank stability problems, all of which have led to increased sediment loading. In addition, runoff carrying pollutants such as heavy metals, pesticides, fertilizers, and bacteria are also contributing to the degradation of water quality in the basin."

The Amazon Creek's watershed, with a total area of 10,000 acres, provides enough diversity of urban conditions (including natural, suburban, agricultural and industrial land) for the students to face the challenge of analyzing, understanding, and designing for complex systems.

It will be the students' task to evaluate social and environmental variables at the city scale (along the creek); find optimal spaces for green infrastructure, plan for their systemic implementation; determine their program and purpose based on their location; and finally develop design rules that would guarantee the ecological integration and sustainable growth of these new emergent urban natures.

METHODS AND DELIVERABLES:

This studio is the first chapter in the Landscape Architecture and Design studio sequence: Systems (Fall), Landforms (Winter) and Materials (Spring). As such, more emphasis will be put on how the analysis of social-environmental systems and their relationship across scales determine the location, purpose and program of urban green infrastructure. The material and technical development of such spaces will be potentially the topic of subsequent studios.

This studio will have the support of the **LA 551 - Landscape Media I** class to ensure a high quality output throughout the entire course.

The course will be structure in four main phases to be detailed in the course calendar:

1. Introduction to GIS technology and methods (1 week)
2. Mapping and analysis (2 weeks)
3. Strategic planning (2 weeks)
4. Design guidelines (2 weeks)
5. Documentation and presentation (2 weeks)



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Each phase will start with an introductory lecture to describe the goals, process and references. The rest of the time will be used for specific workflows tutorials and desk-crits. The students are expected to work continuously on their projects and be ready to present their progress on every class. Every class will be recorded and uploaded online to be accessible to all students.

Students will team up in groups of three to work collaboratively for the entire studio. Each group will generate a presentation at the end of each phase to show their progress. The final presentation will include a booklet documenting their entire studio research.

RECOMMENDED SOFTWARE:

While the **LA 551 - Landscape Media I** class will guide the students in the use of the Adobe Suite, we will allocate some time in this studio to learn specific workflows related to QGIS and Rhino 7. The use of QGIS will be necessary for the collection of GIS data. Rhino 7 will be used for the generation of a site 3d model and further analysis and 3d visualization. The Adobe Suite will be used for 2d diagrams, collages and layouts for the presentations and final posters.

Please, have the following software ready to use before the start of the course:

- **Rhino 7.0** Free 90-day trial. Download at <https://www.rhino3d.com/>
- **QGIS** Free software. Download at <https://qgis.org/en/site/forusers/download.html>
- **Adobe Suite** (Photoshop, Illustrator, InDesign)
Download at: <https://www.adobe.com/creativecloud/buy/students.html>

SUGGESTED READING:

Alexander, C., & Poyner, B. (1966). The atoms of environmental structure. London, Eng.: Great Britain, Directorate of Development.

Benedict, M. A., McMahon, E. T., & A., T. C. (2012). Green Infrastructure: Linking Landscapes and Communities. Washington: Island Press.

Brown, R. D., & Gillespie, T. J. (1995). Microclimatic landscape design: Creating thermal comfort and energy efficiency. New York: Wiley.

Cantrell, Bradley. Responsive Landscapes: Strategies for Responsive Technologies in Landscape Architecture. Routledge, 2017.

Cantrell, Bradley. Modeling the Environment: Techniques and Tools for the 3D Illustration of Dynamic Landscapes. 2012.

De Monchaux, Nicholas. Local Code - 3,659 Proposal about Data, Design & the Nature of Cities. Princeton Architectural Press, 2016

Dover, J. W. (2015). Green infrastructure: Incorporating plants and enhancing biodiversity in buildings and urban environments. London: Routledge, Taylor & Francis Group, Earthscan from Routledge.



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- Gehl, J. (2003). *Life between buildings*. Seoul: Pronsol Publishing.
- Jacobs, J. (2011). *The death and life of great American cities*. New York, NY: Modern Library.
- Johnson, S. (2002). *Emergence: The connected lives of ants, brains, cities and software*. London: Penguin.
- Lima, Manuel. *Visual Complexity: Mapping Patterns of Information*. Princeton Architectural Press, 2013.
- Lynch, K. (1979). *The image of the city*. Cambridge, MA: MIT Pr.
- Marshall, S. (2009). *Cities design and evolution*. Abingdon, Oxon: Routledge.
- McHarg, I. L. (1995). *Design with nature*. New York: John Wiley.
- Meadows, D. H. (2015). *Thinking in systems: A primer*. White River Junction, VT: Chelsea Green Publishing.
- Olgay, V. (2015). *Design with climate: Bioclimatic approach to architectural regionalism*. Princeton: Princeton University Press.
- Otto, F. (2011). *Occupying and connecting: Thoughts on territories and spheres of influence with particular reference to human settlement*. Stuttgart: Menges.
- Waldheim, C. (2006). *The landscape urbanism reader*. New York: Princeton Architectural Press.
- Wilson, W. (2011). *Constructed climates: A primer on urban environments*. Chicago: The University of Chicago Press.
- Wilson, W. (2017). *Stormwater: A resource for scientists, engineers, and policy makers*. Chicago: The University of Chicago Press.



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