



BOSTON ARCHITECTURAL COLLEGE

Title: LAN2001: Ecological Analysis and Conceptual Frameworks
Faculty: Aidan C.S. Ackerman, ASLA
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Offering: Spring 2014
Time and Place: Tuesday 7:15-10:15
Programs: MLA
Prerequisites: Successful completion of Segment I courses and Portfolio review.

Course Overview

This core design studio will introduce students to the fundamental knowledge and technical skills used by landscape architects to conduct inventory and analysis for projects within constructed environments. Through performing research and representation at several scales, students will become aware of the relevant topics and best practices of landscape analysis as they relate to regional, citywide, neighborhood, and human contexts. Students will translate their analysis into a design strategy on a small abandoned industrial lot, incorporating landscape performance goals which establish social, environmental, and economic benefits. This design process will be supported through research and assessment of high-performing landscape projects via The Landscape Architecture Foundation's Landscape Performance Series.

The studio operates in conjunction with DME 2015 and DME 2016 Landscape Representation: GIS and Environmental Design, Intro and Applications, though the studio is not limited to this course sequence.

Course Description

The studio will use the Greater Boston Area as the focus of inquiry to examine the complexity of natural, economic, and social systems that interact within this urban region. Students will learn to collect, analyze, and synthesize complex data within their individual design processes to inform design proposals and decisions about land use and development, and the related infrastructure systems. Investigations at a range of scales will form the basis for multiple analysis projects, ranging from regional and metro scales to site specific ones. Representation techniques will be explored throughout the studio.

Students will perform analyses at a regional scale, assembling a comprehensive, layered analysis addressing topics around natural systems, infrastructure, human activity and behavior, and regional context. By zooming in to the city scale, students will perform a second analysis, examining the economic, social, and environmental benefits of landscape architecture within the city as a whole, and within the framework of an urban neighborhood. Through these explorations, students will be able to assess the individual and aggregate value of high-performance landscapes within an urban context. Further zooming in and out of a specific neighborhood within the city of Boston, each student will perform a thorough analysis of the design site and of its context, performing rigorous contextual and specific analyses within several small neighborhoods surrounding the Roxbury's Dudley Square area of Boston.

Through these analyses, students will discover tools and techniques for establishing measurements and for defining the site's baselines, including the potential economic, ecological, and social performance that may exist therein. In the final weeks of the semester, the studio will focus on the development of a design strategy for a previously abandoned industrial lot. Students will articulate



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landscape performance goals informed by their semester's analysis work, and will in turn individually propose a design strategy for the site which establishes social, environmental, and economic benefits. Students will gain understanding of high-performing landscape projects and their design through examining Case Study Briefs from the Landscape Architecture Foundation's Landscape Performance Series.

LAAB Criteria:

The course curriculum specifically includes coverage of the following criteria:

- Natural and cultural systems including principles of sustainability
- Public Policy and regulation
- Design, planning and management at various scales and applications including but not limited to pedestrian and vehicular circulation, grading drainage and storm water management
- Computer applications and other advanced technology

Course goals:

- Students will gain knowledge in site analysis techniques, and conceptual thinking.
 - Within this studio, students will learn to evaluate data, assessing its value and discovering patterns and connections within the constructed environment. Students will additionally learn to clearly communicate observations, site analysis and design alternatives. Throughout the course, they will be guided through the process of synthesizing large sets of research data, learning to articulate clearly and concisely major themes and key elements of their research and discoveries.
- Students will learn to clearly communicate observations, site analysis and design alternatives.
 - Students will be guided through the process of synthesizing large sets of research data, learning to speak clearly and concisely about major themes and key elements from their research. Frequent pin-ups will allow students to present their analysis techniques and results, with critical feedback allowing them to evaluate the effectiveness of their techniques. Students will be shown how to evaluate the existing site conditions, including local and regional context, developing an approach to the site design which will address issues and explore opportunities for successful design intervention.
- Students will gain experience in methods of representation.
 - Students will learn to translate large quantities of data into graphic form, using GIS, Adobe Photoshop, Adobe Illustrator, and Adobe InDesign. Students will receive critical feedback on the clarity and legibility of their graphic techniques, with clear direction on how to improve the effectiveness of their visual communication. Landscape analysis precedents will be shown to students throughout the semester, accompanied by group discussions evaluating the graphic representation techniques used and their relationship to the analysis data.
- Students will learn to translate analysis into design concepts.
 - Students will learn to verbalize their knowledge of the existing site condition and context, and will be encouraged to develop an approach to the site that is informed by the analysis. Students will learn how to identify areas for improvement, renewal, or change within the existing site conditions, that is furthermore founded through the research precedents available from the Landscape Architecture Foundation's Landscape Performance Series. For the final assignment, students will develop a



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site design which clearly addresses issues found within their analysis, and which are also supported with defined social, environmental, and ecological benefits.

- Students will practice how to verbally present ideas and designs in a clear and concise manner.
 - Working with large quantities of analysis data, students will learn how to communicate the most essential elements of their research in a clear, direct manner. Students will participate in multiple pin-ups and reviews throughout the semester, addressing analysis and site design at multiple scales. During these presentation opportunities, students will receive critical feedback on their analysis approach and design intervention. Students will also receive critical feedback on the clarity of their presentations and their ability to communicate complex concepts quickly and legibly.

Format and Assumptions

- This course will be run as a design studio. There will be a pin-up and discussion during each class period with occasional lectures within the studio regarding pertinent information.
- Classes will encourage interaction among students; class participation is an integral component of the learning structure of this course
- You will be expected to complete work on time and with the utmost care and precision. You should come prepared to each class with substantial progress from the previous class.
- Any assigned readings will be discussed in class and should be read with care.

Course Expectations and Policies

- Attendance is mandatory
- You must arrive at class on time
- Students will be excused from class for family or medical emergencies with advance notice, (or immediately after an emergency), by notifying the instructor or BAC staff in writing. Should you need to be absent, please contact the instructor by email or telephone before the beginning of class.
- Grading will be based on attendance, participation, progress review and final review:
 - Attendance and Participation 15%
 - Weekly Progress Reviews* 60%
 - Final Review* 25%

** Each assignment review will be graded based on verbal presentation, graphic representation, content, and development/progress*

Course Expectations and Learning Outcomes

Site Analysis

- Students are expected to compile research data related to their analysis subject(s); additionally, they are expected to explore digressive or seemingly unrelated research data; uncovering unique and innovative connections between disparate information. Students are expected to communicate the collective value and relevancy of their findings within the site context and studio objectives; additionally, they are expected to communicate ways in which their findings offer potential for design intervention and inspiration within the studio course.



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Site Design

- Students are expected to create a conceptual site design which responds to the site and context, and which is informed by site analysis at multiple scales. Students are further expected to position the site as a catalyst for urban development at contextual scales, identifying and exploring specific analysis findings which support their argument.

Representation

- Students are expected to clearly and accurately represent their analysis findings, including utilization of exploratory, inventive advanced visual communication techniques to effectively convey their research. Students are expected to visually integrate only the relevant information in diagrammatic form, including recombining and reinterpreting data in an innovative manner. Students are expected to produce conceptual design graphics with proper scale and line weight, communicating the design concept and related analysis information.

Readings, Resources and Materials, Required and Recommended

- Readings as provided by the instructors
- Sketch Book
- Trace, and adequate markers and scales. (*bring to each class!*)
- Recommended books:
 - Adams, Michelle (2011), High Performance Landscape Guidelines: 21st Century Parks for NY, Design Trust for Public Space. ISBN-13: 978-0977717521
 - Cantrell, Bradley (2010), Digital Drawing For Landscape Architecture: Contemporary Techniques and Tools for Digital Representation in Site Design, Wiley press. ISBN-10: 0470403977
 - Deming, M. Elen and Simon Swaffield (2011), Landscape Architecture Research: Inquiry, Strategy, Design, Wiley Press, ISBN-10: 0470564172
 - Francis, Mark (2003). Urban Open Space: Designing For User Needs (Landscape Architecture Foundation Land and Community Design Case Study Series), Island Press, ISBN-10: 1559631139
 - LaGro, James A (2008). Site Analysis: A Contextual Approach to Sustainable Land Planning and Site Design, Wiley Press, ISBN-10: 0471797987
 - LaGro, James A (2001), Site Analysis: Linking Program and Concept in Land Planning and Design, Wiley press, ISBN-10: 0471344125
 - Lynch, Kevin and Gary Hack (1984), Site Planning, Third Edition, MIT Press. ISBN: 0-262-12106-9
 - McHarg, Ian (1995), Design with Nature, Wiley Press. ISBN-10: 047111460X
 - Reid, Grant (Sept. 2002), Landscape Graphics, Revised Edition, Watson-Guption Publications. ISBN-10: 0-8230-7333-5



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Readings, Resources and Materials, Required and Recommended (Continued)

- Steenbergen, Clemens, Meeks, Sabine and Steffen Nijhuis (2008), *Composing Landscapes: Analysis, Typology and Experiments for Design*, Basel ; Boston : Birkhäuser, ISBN-10: 3764387823
- Tufte, Edward R. (May 2001), *The Visual Display of Quantitative Information*, 2nd Edition, Graphics Press. ISBN-10: 0961392142
- Tufte, Edward R. (May 1990), *Envisioning Information*, Graphics Press. ISBN-10: 0961392118
- Turner, Monica, Gardner, R.H. and Robert V. O'Neill (2001), *Landscape Ecology in Theory and*
- *Practice: Pattern and Process*, Springer Press, ISBN-10: 0387951237
- Waldheim, Charles (2006), *The Landscape Urbanism Reader*, Princeton Architectural Press. ISBN-10 1-56898-439

Online Resources:

The Landscape Architecture Foundation: Landscape Performance Series
<http://www.lafoundation.org/research/landscape-performance-series/>

The Landscape Architecture Foundation: Benefits Toolkit
<http://www.lafoundation.org/research/landscape-performance-series/toolkit/>



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Course and BAC Expectations and Policies

Campus Compact

The BAC is committed to creating an educational environment that promotes opportunities for learning. Such an environment can only occur when every individual in the BAC community takes an active role in respecting the integrity of others.

- Full text at <http://www.the-bac.edu/x372.xml>

Academic Integrity

The BAC requires that all work completed by a member of the school meet the following requirements:

- It must wholly be the work of that person.
- It must be original for the class for which it is in. Failure to adhere to these guidelines is considered cheating, or academic dishonesty, and undermines the values that drive the school.
- Full text at <http://www.the-bac.edu/x367.xml>

Diversity Statement

The Boston Architectural College is committed to promoting a community that celebrates, affirms, and vigorously pursues inclusiveness in all its forms.

- Full text at <http://www.the-bac.edu/x434.xml>

Academic Support & Statement for students with Learning Disabilities

The BAC offers reasonable accommodations to students who otherwise cannot reach their academic potential due to a learning disability, physical impairment, medical/psychological condition, or unforeseen circumstances that may arise during the course of their studies. All forms of accommodation are tailored specifically to the individual student and meet guidelines for educational benefit and academic consistency. Accommodations will be made only in a manner which maintains the integrity of required learning objectives.

- Full text at <http://www.the-bac.edu/x383.xml>



Schedule and Course Outline - Subject to Change at the Discretion of the Instructor
Course Assignments: LAN2001 Ecological Analysis and Conceptual Frameworks

Weeks 1-4 (4 weeks): Assignment #1: Regional Analysis Project: Greater Boston Metro Area

Students will research, analyze, and represent research at a regional scale, using digital tools as well as printed material, maps, and other archival data. Students will assemble a comprehensive, layered analysis which addresses topics of natural systems, infrastructure, human activity, and regional context. Analysis should address the benefits and drawbacks of these elements, investigating each element's contribution to a robust regional network.

Weeks 5-8 (4 weeks): Assignment #2: Multi-Scale Urban Analysis: Boston/Roxbury

For this assignment, one or more analysis topics will be given to each student, and the student will perform an analysis both at the scale of the city of Boston, as well as at the scale of the neighborhood of Roxbury. Examining the same topic at two scales, students will explore that the level of inquiry and representation appropriate to each scale. Students will explore the economic, social, and environmental benefits of landscape architecture within the city as a whole, as well as within the urban neighborhood.

Weeks 6-7 (2 weeks): Precedent Study, Landscape Performance Series

Working in small groups, students are assigned several case studies from the Landscape Architecture Foundation's Landscape Performance Series. In this short assignment, students will utilize short Case Study Briefs to understand various aspects of landscape performance as embodied by each built project. Students will examine the methodologies utilized by research teams to quantify landscape performance, and will learn to understand and make use of the tools found in the Landscape Performance Series Benefits Toolkit. This assignment will culminate in in-class presentations by each group, which will cover the following topical areas: performance benefits found in each project, methodologies used to quantify these benefits, and utilization of tools from the Benefits Toolkit to quantify performance benefits.

Week 9: Midreview, Landscape Performance CSI (Case Study Investigation) Precedent Study

Weeks 10-12 (3 weeks): Assignment #3: Contextual Site Analysis: Dudley Square

Students will each perform a thorough analysis of the site and its context, performing rigorous analyses within several small neighborhoods surrounding Roxbury's Dudley Square area. Students will learn to analyze the landscape through the lens of performance, discovering tools and techniques to establish knowledge of the site's baseline and potential economic, ecological, and social performance. Students will propose performance benefits which they feel would have positive impact at the site and neighborhood scale, and will substantiate these proposals with evidence from their analysis research.

Weeks 13-15 (3 weeks): Assignment #4: Conceptual Site Design

In the final weeks of the semester, students will focus on the development of a high-performance design strategy on a previously unused industrial lot. Students will perform a precedent study high-performance landscapes through examining Case Study Briefs from the Landscape Architecture Foundation's Landscape Performance Series. Students will then in turn individually design a design for the site which articulates goals for social, environmental, and economic benefit. Additional infrastructural, ecological, and building components should coalesce to form a coherent site design which takes into account the previous analysis work from the entire semester.

Week 16: Final Review



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Course Schedule – Subject to Change

WEEK 1

- Introduction to Class
- Discussion: Introduction to Concepts in Site Analysis
- Handout Assignment #1: Regional Analysis Project

WEEK 2

- Lecture: Analysis Methodology
- Pin-Up: Assignment #1

WEEK 3

- Desk Critiques: Assignment #1

WEEK 4

- Final Pin-Up: Assignment #1
- Handout Assignment #2: Multi-Scale Urban Analysis

WEEK 5

- Lecture: Defining Objectives For A Multi-Scale Urban Analysis
- Pin-Up: Assignment #2

WEEK 6

- Desk Critiques: Assignment #2

WEEK 7

- Lecture: Graphic Representation Techniques For Analysis
- Desk Critiques: Assignment #2
- Discussion: Midreview

WEEK 8

- MIDREVIEW, Landscape Performance CSI (Case Study Investigation) Precedent Study

WEEK 9

- Handout Assignment #3: Contextual Site Analysis

WEEK 10

- Lecture: Advanced Analysis Representation Techniques
- Desk Critiques: Assignment #3

WEEK 11

- Desk Critiques: Assignment #3

WEEK 12

- Final Pin-Up: Assignment #3
- Handout: Assignment #4: Conceptual Site Design

WEEK 13

- Desk Critiques: Assignment #4: Conceptual Site Design

WEEK 14

- Lecture: Synthesis of Analysis Data and Conceptual Design
- Desk Critiques: Assignment #4: Conceptual Site Design

WEEK 15

- Desk Critiques: Focus on final presentation preparation

WEEK 16

- FINAL REVIEW