



# BOSTON ARCHITECTURAL COLLEGE

## **Philosophy and Overview**

*From the BAC website:* The mission of the School of Landscape Architecture is to provide first professional degrees founded on excellence in design education through an interdisciplinary, academic and practice based model of design thinking and learning, and open to students and faculty of all cultures who wish to explore new urban landscapes and sustainable design principles influencing the advancement of the landscape architecture profession and the diverse and global communities it seeks to serve. The School of Landscape Architecture takes full advantage of its prime location in the heart of Boston, where students have the ability to observe and consider real aspects of the City, in situ. The City, in this sense, is both the setting and the classroom for students to explore the living and constructed dynamics of urban public open space such that they have constant stimulation in a complex living and learning experience. Concurrent with the academic Landscape Architecture coursework, students participate in experiential learning by working within professional firms. In these settings students test their academic discoveries by responding to real clients, tangible sites, and actual programs and construction budgets. These practice experiences equip students with hands-on knowledge and allow them to move into their professional track early in their careers. For information about Licensure in Landscape Architecture, see the Practice page.

## **Student Experience and Background**

This class is a design studio comprised of Master of Landscape Architecture students entering their second semester, and Bachelor Landscape Architecture students entering their third semester. Prior to entering this class, students completed a transdisciplinary foundation studio where they explored fundamental spatial design processes within the studio environment. Additionally, students completed design representation classes where they gained skills in hardline orthogonal drawing, Adobe Photoshop, Illustrator, InDesign, and AutoCAD. Students also completed City Lab, where they explored the fundamentals of design thinking using the landscapes and works of architecture in the vicinity of the College as a learning resource. City Lab combined daily opportunities for experiential learning in the city with a series of orienting lectures and workshops on Boston history and urbanism, sketchbook use, graphic analysis, iterative process, diagramming, local design culture, and professional practice. As part of City Lab, students visited local firms, and had the opportunity to learn about professional practice and meet local design practitioners.

## **Reflections on Teaching and Course Content**

Throughout the semester, certain elements of the course were highly successful, and a few items could be developed further. Reflecting specifically on teaching the class through the lens of landscape performance, the most successful elements were as follows:

- The analysis process in and of itself played a significant role in the success of the studio and its incorporation of landscape performance as a component of the design process. Throughout the first half of the semester, students are immersed in the analysis process; in the second half of the semester students ground their analysis in a landscape design strategy. With a robust body of research to draw upon, students were able to successfully identify areas within the site as well as its context where landscape performance benefits could have a measurable impact. The design strategies which emerged from the students' analysis involved performance benefits which were informed by their research, and which were relevant within the site's context and beyond.



- Use of the Landscape Architecture Foundation's Case Study Briefs as part of a precedent study successfully supported students' understanding of design strategies which result in high performing projects. Case studies were selected from the LAF website; each student was assigned a case study and a written and visual presentation; case studies were selected based on the presence of characteristics similar to the studio design site. Students were asked to report which predictive tools from the LAF's Benefits Toolkit were used by the CSI team researching the case study, which allowed students to become familiar with predictive modeling tools. Through this process students were able to successfully relate components of landscape design with their resulting landscape performance benefit. Prior to the precedent study, landscape performance benefits were largely an abstract concept within the studio, disconnected from specific sites, programmatic elements, or features of landscape. Following the precedent study, students began to more successfully propose elements within their designs which would contribute to the overall level of landscape performance encapsulated within their design strategies. It is especially notable that immediately following the precedent study, students began to articulate deeper theories about the social role of landscape architecture in urban areas, and the many ways design can foster these connections.
- Use of LAF's Benefits Toolkit as an element of the design process within the students' studio projects was successful in quantifying design features and relating them to performance outcomes. Throughout the second half of the semester, students proposed designs which would achieve specific performance benefits. The next step for the student would be to calculate area, number of features, or other quantifiable elements within the design, and run calculations to predict the performance benefits achieved. Students would then examine these outcomes, and if they felt the outcomes were unsatisfactory the student would make changes in the design until the desired predicted outcome was achieved. These outcomes included environmental, social, and economic benefits; students calculated stormwater retention and runoff, heating and cooling costs, carbon sequestration, number of occupants, traffic flow, safety, and numerous other benefits. Students were able to identify specific programmatic elements that they wished to support within their site design, and articulate the relationship of program to their analysis and the site's context.

Although the studio was successful in most aspects, the following areas could be developed in future semesters:

- Challenges existed in connecting regional analysis to performance benefits. Regional analysis is an essential component of this studio, and positions students to propose landscape architecture designs which succeed at multiple scales, and which relate to their immediate and larger context. However, much of the studio's examination of landscape performance occurred at a smaller scale – mainly within the site, and some immediate context. In future semesters, landscape performance could be aligned with regional analysis in a more meaningful way, connecting what is learned at the regional and urban scale to a specific site or set of sites.
- Economic performance benefits were challenging to connect to the design process. While many environmental and social performance benefits can be predicted or at least imagined prior to the building phase, economic benefits are more closely related to project construction and the impact of the project after it is built. Areas such as cost/benefit analysis were most successfully connected to the analysis process, with some students performing an analysis of existing conditions, and proposing design strategies to adaptively reuse elements in situ. However, this was only marginally possible due to the depth and breadth of the studio; in



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future semesters this could become a deeper focus of the design problem. Most challenging was gaining an understanding of the potential economic impact of the design on abutters, surrounding businesses and residents, the neighborhood, and the city itself. This is a metric which is most successfully calculated once the design has been constructed and has been in place for some years. Within the studio, this metric could only be vaguely predicted. However, even this level of anticipation of positive economic impact was a successful element of the studio, as it allowed students to identify the potential for landscape architecture to improve the economic condition of an urban neighborhood.

### **Application to Other Design Studio Environments**

This course relies on the analysis process to facilitate students' understanding of the multiple scales and contexts within which the landscape architect operates. Furthermore, the analysis process provides a framework for the students' first studio design experience, allowing them to find inspiration for design and successfully position this design within a relevant context. The introduction of landscape performance functions naturally as part of the students' journey through analysis to design proposal, providing resources and metrics to both shape as well as support their design proposals. The use of case studies from LAF allows performance benefits to come alive, immediately connecting design elements and strategies to successful performance metrics. In other design studios, this framework of landscape performance-based analysis, precedent study, and design can be applied in a similar manner, with each of investigation relating to landscape performance in different ways. For an advanced studio, analysis may be given significant focus to examining existing conditions in a finer level of detail, anticipating calculation of cost-benefit analyses and proposal of in situ restoration operations. Additionally, significant space can be dedicated to working with predictive modeling as part of the design process: students propose the design, calculate performance metrics, revisit aspects of the site design, recalculate performance metrics, etc. with the eventual goal of arriving at a fully-developed site plan which successfully achieves a range of high-level performance benefits.

As the BAC's School of Landscape Architecture continues to explore opportunities to integrate landscape analysis and performance into studio curriculum, the analysis process itself has the potential to reveal new performance metrics and evaluation methods. The design process could both respond to that which we know - established performance evaluation criteria - as well as to new criteria emerging from the analysis itself. This might in turn provide opportunity for the analysis process to reveal new areas of inquiry, contributing new knowledge and metrics to the growing body of resources for evaluating landscape performance.