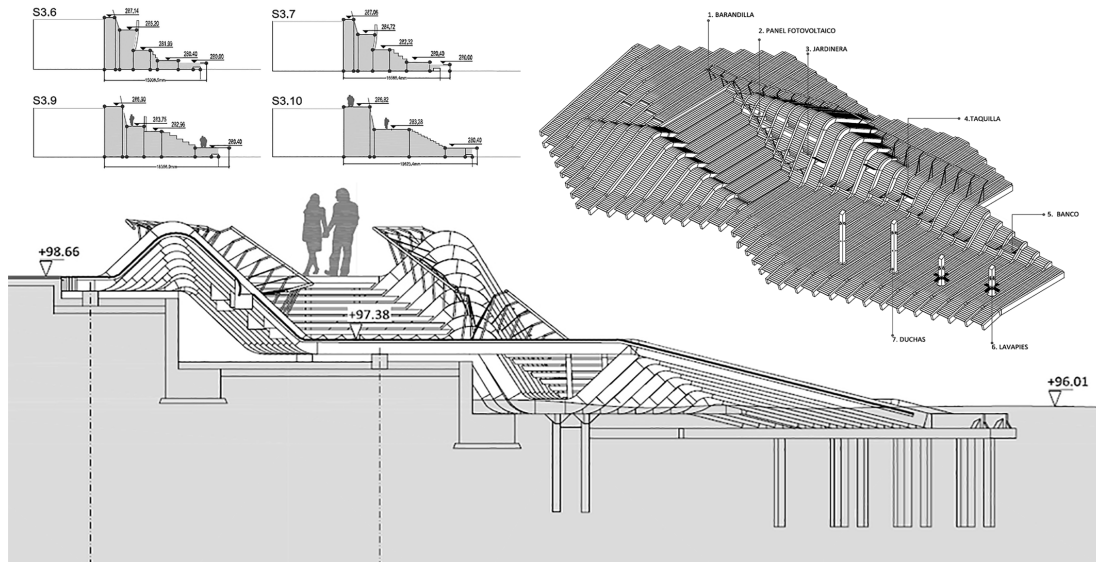


LA 4/550 Spring 2024

DIGITAL TWINS: Advanced CAD for Landscape Architecture

CRN 32622/32633 - Thursdays 12pm-1.50pm at LA231 (2 credits)

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



Playa del Ingles Beach Equipments (2009)
LPA Studio (Juan Palop + Ignacio Lopez Buson)

“You can use an eraser on the drafting table or a sledge hammer on the construction site..”

- Frank Lloyd Wright

COURSE DESCRIPTION:

Thanks to the advances in digital technologies in the last decade, landscape architecture is finally moving from the two-dimensional to the three-dimensional realm. The architecture industry has fully embraced the Building Information Modeling (BIM) paradigm, putting even more pressure on landscape architects to develop their projects directly in 3D. Three-dimensional modeling is not a visualization byproduct but a means to incorporate more information into the design process. From a landscape perspective, this translates into a myriad of possibilities: accurate topography models, environmental simulations, real-time tracking of materials, instant cut-and-fill calculations, and more precise and streamlined construction documentation. The latter becomes even more critical at a time when landscape designers are pushing the boundaries of landscape architecture and proposing highly complex projects that can only be developed using 3D technologies.

Despite this progress, two-dimensional construction documentation is far from obsolescence. CAD 2D drawings are an essential way to communicate a project with clients and contractors and are still the final and most important means to represent a project in the construction phase. By using a methodology that merges BIM logic and 3D modeling techniques, the students will aim to develop a three-dimensional model of an existing landscape architecture project of their choice and extract all the necessary information from the digital twin to successfully document the project following professional CAD standards.



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RECOMMENDED SOFTWARE:

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

- **Rhino 6.0 or 7.0**
Free 90-day trial. Download at <https://www.rhino3d.com/>
- **Autodesk Autocad**
Free for UO Landscape Architecture students.
Download at <https://www.autodesk.com/education/edu-software/overview>

SUGGESTED READING:

Cantrell, B., & Mekies, A. (2018). Codify: Parametric and computational design in landscape architecture. London: Routledge.

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

Design Workshop. Landscape Architecture Documentation Standards: Principles, Guidelines, and Best Practices. Wiley. 2015

Harris, C. Time-Saver Standards for Landscape Architecture. McGraw Hill. 1997

Hopper, L., Landscape Architectural Graphic Standards. Wiley. 2007

Petschek, P., Grading for Landscape Architects. Birkhauser. 2008

Strom, S., Nathan, K., Woland, J. Site Engineering for Landscape Architects. 2009



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