ARCH 423/523 Media for Design Development: Stair Design and Documentation • Fall 2010 • 3 Credits • T/R, 10:00-11:50 • 101A McKenzie Hall

Purpose  Despite the longstanding development of mechanical means of conveying people vertically through space, stairs continue to occupy a primary role in the built environment. When not limited to a strictly utilitarian role, stairs can serve as poetic invitations to explore a building or act as sculptural objects that enliven and give focus to a space. The potential for variation in stair design is nearly infinite. They can be grand and massive or light and airy; tour-de-force of tectonics and engineering or simple and understated in their structure. Regardless, due to the limitations imposed by the relationship of stairs to the human body and their functional role, the fundamental form of all stairs is much the same.

At the heart of the profession of architecture is the development and communication of ideas for the design of the built environment. The ability to create thorough and legible drawings for the purpose of construction that abide by recognized professional standards is an indispensable skill for architects. Using stair design as a focus, students will learn how to create a comprehensive set of construction drawings [plans, elevations, sections, isometrics, and details] that employ commonly recognized graphic conventions such as line weight and line type, leader notes, keynotes, call-out tags, section marks, dimensions, etc.

Process  After a brief discussion of stair history and symbolism, we will address definitions of stair components, basic stair types, structural typologies, proportional systems related to human perceptions of comfort, safety, and movement, and the material and tectonic aspects of stair construction. Particular emphasis will be placed on exploring examples of contemporary stairs that demonstrate innovative material and structural approaches to their design. Central to our investigation will be the issue of stair safety and how current building codes govern stair design.

The primary medium for our development and documentation of stair design will be the Computer Aided Design (CAD) application AutoCAD, Version 2010. No prior knowledge of AutoCAD is required and roughly one third of the course content will be devoted to introducing students to the basic skills and techniques of 2-Dimensional Computer Aided Design using AutoCAD. Although the architectural profession is increasingly moving towards Building Information Modeling (BIM) software applications such as Revit as the standard, this transition, particularly amongst engineering consultants, will likely be gradual. For this reason the ability to use 2-D CAD applications such as AutoCAD will be a necessary skill for young designers for the foreseeable future.

Considerations  Students are expected to have a background in the basic use of digital media such as the Adobe Creative Suite and Sketch-up. Due to an overlap of content, students who are planning to take the Interior Architecture Working Drawings Studio are advised not to register for this course. AutoCAD is available for use at the majority of computer labs open to architecture students; therefore, purchase of an AutoCAD license is not required for this course.

Instructor  Paul Harman is a recent graduate of the Master of Architecture program at the University of Oregon where he has taught classes in digital modeling and fabrication. Paul has seven years of experience in professional practice and currently works for the Eugene firm PIVOT where he is part of the design and construction administration team for EWEB’s new Operations facility in west Eugene.

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