ARCHITECTURE 461/561

Structural Behavior

“Form is structure, no matter what other names are given to it, and therefore structure is architecture.”
Craig Ellwood, as quoted in Architects on Architecture, 1966

Architecture is a multi-faceted discipline concerned with such varied things as culture, sustainability, tectonics, ethics, and form. As students there is a tendency to view these aspects of the profession independently, to be studied in different classes. As part of this class we will examine buildings in which there was an elegant, and sometimes profound, integration of structure, space, construction and sustainability. In these buildings structural members do more than simply hold up the roof: they shape space, convey feeling, and connect with people.

This course has three goals:

• To give you a basic understanding of the structural behavior of buildings and the most common building materials. We will explore structure as a generative, creative force in the design process and not just a requirement of construction. We strive to move beyond the math and develop a “structural intuition” to guide you in your future design endeavors.
• To understand the structural properties and common uses of the most frequently-encountered building materials. As an architect you have the legal responsibility to oversee all areas of a building project in both the design and construction phases. In order to collaborate effectively with contractors and engineers you will need a strong foundation in material mechanics, types of connections, and common structural design techniques and strategies.
• To develop the technical skills necessary to complete the structural portions of the licensure exams.

Major topics will include a general examination of how structure and construction play an essential role in building design; reviews of exemplary case studies; discussion of an integrated design process; detailed study of the behavior of structures; and structural analysis.

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ARCH 461: CRN 11308
ARCH 561: CRN 11378

Lectures: TH 4-5:50 White Stag Room 150
Office Hours: T 6-7
Labs: Time/location and CRN will be indicated on Duck Web
Credits: 4
Prerequisites: ARCH 470, PHYS 201, passing score on diagnostic exam or attendance at required modules of math and physics review course during the week before class.

Attendance: Required in lecture and labs.