

DEPARTMENT OF ARCHITECTURE
School of Architecture & Allied Arts
University of Oregon

ARCH 471/571
Fall 2018
Donald Corner and John Rowell

BUILDING ENCLOSURE

**wood, metals, glass, masonry veneers and roofing;
design, detailing, performance and building science**

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Meeting Time and Place: 10:00 – 11:50 UH 115 Lawrence
plus lab session per schedule

Format: Lectures, lab sections, projects, in-class quizzes,
mid-term, and final exam

Credit Hours and Grading: 4 credit hours, optional grading for Undergraduates

Prerequisites: ARCH 4/562, 4/591

Required Texts: Allen, Fundamentals of Building Construction
Materials and Methods, 5th Edition, 2008.
Allen and Rand, Architectural Detailing, 2nd Edition, 2007.
Herzog, Façade Construction Manual.
Brock, Designing the Exterior Wall.
Brookes, Cladding of Buildings, available on reserve.
Posted readings drawn from supplementary texts.

Course Objectives:

The subject focus of this course is the weather envelope that surrounds primary structure. Major material groups will be wood, metals, glass, roofing, masonry veneers and concrete panels. The emphasis will be on the selection of appropriate materials and their application to design problems, requiring the integration of architectural concepts with good standards of technical practice. The course will require readings, detailing projects, in-class drawing and hands-on laboratory sessions. There will be both a mid-term and a final exam.

- Build on the student's developing understanding of the influence of construction materials and processes in the form of the built environment.
- Introduce building science concepts relevant to the building enclosure.
- Emphasize areas of building technology in which the architect has primary responsibility, the enclosure envelope and the interior finish systems.
- Study the physical properties, manufacture, appropriate use and behavior in place of traditional, contemporary and experimental materials.
- Provide experience in construction detailing and documentation, including technical drawing and specifications.
- Explore the critical role of the building enclosure in building performance and green building.

Course Requirements

This course requires substantial reading from sources that describe the history and practice of building construction. There are extensive lectures presenting major materials groups (wood, steel, non-ferrous metals, glass, roofing, brick, stone, concrete, stucco, plaster, etc.) and detailing practices appropriate to these materials. Student understanding of these concepts and process is measured through two-hour examinations, at mid-term and end of term. The exam format varies from year to year including a closed book, multiple choice format and open book detailing tasks. There may also be quizzes given during the lecture hours, for a small percentage of the grade. In addition to the lectures, students must attend one laboratory session per week in which they will explore construction concepts, and develop and present detailing projects.