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

ARCH 471/571
Fall 2010

John Rowell

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

Instructor: John Rowell
485 Lawrence
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Meeting Time and Place: 10:00 – 11:50 UH 115 Lawrence
plus lab session as per time 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
Brock, Designing the Exterior Wall.
Brookes, Cladding of Buildings, available on reserve.
Posted readings drawn from supplementary texts.

COURSE DESCRIPTION
The subject focus of this course is the weather envelope that surrounds primary structure. Major material
groups will be examined in sequence: 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 which require
the integration of architectural concepts with good standards of technical practice. The course will require
readings, detailing projects and hands-on laboratory sessions. There will be both a mid-term and a final exam.

COURSE OBJECTIVES
1. Build on the student’s developing understanding of the role and impact which construction materials and
processes have in determining the form of the built environment.
2. Introduce building science concepts relevant to the building enclosure.
3. Emphasize those areas of building technology in which the architect must be competent to act alone, the
enclosure envelope and the interior finish systems.
4. Study the physical properties, manufacture, appropriate use and behavior in place of traditional,
contemporary and experimental materials.
5. Provide experience in construction detailing and documentation.

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.