BUILDING ENCLOSURE: Theory and Practice

Instructor: Mike Steffen, AIA, LEED® AP (msteffen@walshconstructionco.com)
Graduate Teaching Fellow: Kevin Montgomery (montgom2@uoregon.edu)
Meeting Time and Place: 5:00pm - 6:50pm Monday - Room WS 142/144
5:00pm - 6:50pm Wednesday - Room WS 142/144
Format: Lectures, in-class exercises, field trips, exams
Credit Hours and Grading: 4 credit hours, optional grading for undergraduates.
Prerequisites: ARCH 4/562, 4/563, 4/591.
Allen & Rand, Architectural Detailing, (2nd Ed.)
Brock, Designing the Exterior Wall
Supplemental Readings: CMHC, Best Practice Guide: Wood Frame Envelopes in the Coastal Climate of British Columbia
Brand, Architectural Details for Insulated Buildings

COURSE DESCRIPTION
This is the final course in the technical sequence that is required of all graduating students. The subject focus of this course is on the building enclosure systems that surround primary structure. The course will cover fundamentals and principles of building science and the building enclosure. Systems and assemblies will be explored, including critical barriers, windows and doors, flashings, coatings, sealants and waterproofing. Major material groups will be examined: wood, metals, glass, roofing, masonry veneers and concrete panels. Selection of appropriate materials and their application to design problems that require the integration of architectural concepts and good standards of technical practice will be discussed. The development of systems and materials will be presented along with case studies showing exemplary projects and current practice.

The class will meet twice a week for lectures, discussions, exercises and project case studies. There also will be case study presentations of enclosure designs by local architects, as well as field trips to construction sites and built projects.

COURSE OBJECTIVES
1. Build on the students developing understanding of the tectonic dimension of the art of building, through an appreciation of craft and expressive emphasis in building enclosure design and construction.
2. Develop an understanding of building science principles as they apply to the design and construction of the building enclosure.
3. Develop an understanding of the physical properties of materials and the appropriate use of materials in building enclosures.
4. Provide experience with introductory concepts of construction detailing and documentation.
COURSE REQUIREMENTS
This course requires substantial reading from sources that describe the theory and practice of building
design and construction related to building enclosures. The course includes lectures, class discussion,
detailing exercises and sketch problems to supplement these readings.

COURSE GRADING
Activity:  
<table>
<thead>
<tr>
<th>Activity</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise 1</td>
<td>20</td>
</tr>
<tr>
<td>Exercise 2</td>
<td>20</td>
</tr>
<tr>
<td>Exam 1</td>
<td>60</td>
</tr>
<tr>
<td>Exercise 3</td>
<td>40</td>
</tr>
<tr>
<td>Exam 2</td>
<td>60</td>
</tr>
</tbody>
</table>

---------------------------------------------------------------------
Total Possible        200 points
---------------------------------------------------------------------

Late Work:  
Receives a 10% reduction each day it is late.

Grading for the term will be based on a percentage scale:
A  =  90 – 100%  (180-200 pts.)
B  =  80 – 89%  (160-179 pts.)
C  =  70 – 79%  (140-159 pts.)
D  =  60 – 69%  (120-139 pts.)

Graduate Students: To receive a P you must score at least a B or better.
Undergraduate Students: To receive a P you must score at least a C or better.

OTHER NOTES
Class attendance is mandatory. Emergencies occur - if you cannot attend please let the teaching assistant
know asap. Generally speaking there is a direct relationship between class attendance and your ability to
succeed in this course.

The instructors have limited time to provide consultations regarding coursework outside of normal class
hours. By appointment only, the instructors may be available for consultation directly following class hours.
Please contact the instructors or the teaching assistant by email or at the end of a class session to schedule
an appointment.

ROLE OF GTF IN COURSE GRADING
The course GTF will evaluate non-subjective sections of exams given in ARCH 471. The instructor intends
that the GTF will also evaluate non-subjective sections of exams given in ARCH 571, however graduate level
students who prefer that these exam sections be evaluated only by the instructor can request such.