



Course Title: Building Science and Technology II			
Course Number	EVDA 611		
Pre/Co-Requisites			
Instructor Name	Chris Roberts	Instructor Email	crobert@ucalgary.ca
Office Location	NA		
TA Name	Saman Aboutorab	TA Email	saman.aboutorab@ucalgary.ca
Class Dates	Winter 2020, Mondays and Wednesdays		
Class Times	10:40am to 12:10pm		
Class Location	PF 3160		

Course Information / Description of the Course

Application of building science theory to building enclosure, examination of building elements and the application of building components to specific problems in architecture. This course focuses on the application of building science principles to building structures and enclosures. It examines various types of building elements in manners appropriate to their intended functions and performances. The understanding of building enclosures requires a familiarity with individual components that make up the total structure. Each component interacts and interrelates with one another. This course examines the function and configuration of building components from footings to wall and roofing systems.

Learning Resources

For this course, all required study material will be provided by the Instructor. It is suggested that students become familiar with the building science papers published on the Canadian Building Digest, Building Science Corporation and the Alberta Association of Architects websites.

Canadian Building Digest, Institute for Research in Construction, National Research Council of Canada @ www.nrc.ca/irc/cbd

Building Science Corporation @ www.buildingscience.com

High Performance Enclosures, John Straube

AAA Website, Continuing Education, CMHC & OAA Articles @ www.aaa.ab.ca

Required readings, textbooks and learning materials.

Course Learning Outcomes

At the end of this course, students will be able to:

1. To develop a sound understanding of building envelope components and their influence on building performance, design intent and sustainability.
2. To develop an understanding of the building process from soils investigation and foundation design to the design and execution of building enclosure systems.
3. To become familiar with the basic requirements of the National and Alberta Building Code that most impact design including rules for exiting, handicap accessibility, fire ratings and separations.
4. To acquire necessary skills to read, design and illustrate certain architectural details as an effective means of communication.

Assessment and Evaluation Information

Proficiency in the course is demonstrated by the student's ability to analyze and detail building assemblies and discuss the merits and deficiencies of the various materials for particular applications. In addition, some proficiency in understanding the basic requirements of the Alberta Building Code 2014 will be required.

There will be no final exam. Students must obtain an overall passing grade to pass this course.

Final evaluation is based on the following:

Mid Term Exam 30% - Open Book/Electronic Devices Not Permitted.

Studio Project 70%. – date TBA, submission to be 11x17 hard copy.

Final grades will be reported as letter grades, with the final grade calculated according to the 4-point range.

Grading Scale

Grade	Grade Point Value	4-Point Range	Percent	Description
A+	4.00	4.00	95-100	Outstanding - evaluated by instructor
A	4.00	3.85-4.00	90-94.99	Excellent - superior performance showing comprehensive understanding of the subject matter
A-	3.70	3.50-3.84	85-89.99	Very good performance
B+	3.30	3.15-3.49	80-84.99	Good performance
B	3.00	2.85-3.14	75-79.99	Satisfactory performance
B-	2.70	2.50-2.84	70-74.99	Minimum pass for students in the Faculty of Graduate Studies
C+	2.30	2.15-2.49	65-69.99	All final grades below B- are indicative of failure at the graduate level and cannot be counted toward Faculty of Graduate Studies course requirements.
C	2.00	1.85-2.14	60-64.99	

C-	1.70	1.50-1.84	55-59.99	
D+	1.30	1.15-1.49	50-54.99	
D	1.00	0.50-1.14	45-49.99	
F	0.00	0-0.49	0-44.99	

A student who receives a "C+" or lower in any one course will be required to withdraw regardless of their grade point average (GPA) unless the program recommends otherwise. If the program permits the student to retake a failed course, the second grade will replace the initial grade in the calculation of the GPA, and both grades will appear on the transcript.

CACB Student Performance Criteria

The following CACB Student Performance Criteria will be covered in this course at a primary level (other criteria will be covered at a secondary level) B5: Accessibility, B6: Life Safety Systems; B9 Building Envelopes; B11 Building Materials; C1 Detailed Design Development; C2 Building Systems Integration; C3 Technical Documentation.

Topic Areas & Detailed Class Schedule

Course Schedule Date	Topic	Assignments/Due Dates
January 13 - 15	Introduction, Geotechnical	
January 20 - 22	Foundation Design Part 1 Building Code Review	
January 27 - 29	Part 2 Building Code Review Building Envelope Theory	
February 3 - 5	Masonry Glazing Systems	
February 10 - 12	Cladding Systems Roofing Systems	
February 16 - 22	No Classes – Term Break	
February 24 - 26	Floor Plan Building Code Review Insulation Types	
March 2 - 4	Mid Term Exam	
March 9 - 13	No classes / SAPL Block Week	
March 16 - 18	Complex Form Drawing Conventions	
March 23 - 25	Desk Crits	
March 30 - April 1	Desk Crits	
April 6 - 8	Desk Crits	
April 13 - 15	Desk Crits	

Media and Recording in Learning Environments

Part 1

University Calendar: <https://www.ucalgary.ca/pubs/calendar/current/e-6.html>

Recording of lectures (other than audio recordings that are pre-arranged as part of an authorized accommodation) is not permitted.

Students may not record any portion of a lecture, class discussion or course-related learning activity without the prior and explicit written permission of the course instructor or authorization from Student Accessibility Services. For any other use, whether by duplication, transcription, publication, sale or transfer of recordings, written approval must be obtained from the instructor for the specific use proposed. Any use other than that described above constitutes academic misconduct and may result in suspension or expulsion.

Part 2

The instructor may use media recordings to capture the delivery of a lecture.

The instructor will notify all students and guests in the class that the event is being recorded. If a student or guest wants to take steps to protect privacy, and does not want to be recorded, the instructor will provide the individual (s) with an alternative means of participating and asking questions (e.g., passing written notes with questions). Students cannot be penalized for choosing not to be recorded in situations where participation is part of the course. Students must be offered other ways of earning participation credit that do not involve recording.

Any video-recording would be intended to only capture the instructor and the front of the classroom. Students/other participants would not necessarily be visible on video recordings.

University of Calgary Policies and Supports

ACADEMIC ACCOMMODATION

Students seeking an accommodation based on disability or medical concerns should contact Student Accessibility Services; SAS will process the request and issue letters of accommodation to instructors. For additional information on support services and accommodations for students with disabilities, visit www.ucalgary.ca/access/. Students who require an accommodation in relation to their coursework based on a protected ground other than disability should communicate this need in writing to their Instructor.

The full policy on Student Accommodations is available at

<http://www.ucalgary.ca/policies/files/policies/student-accommodation-policy.pdf>.

ACADEMIC MISCONDUCT

Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when: (a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work, (b) parts of the work are taken from another source without reference to the original author, (c) the whole work (e.g., an essay) is copied from another source, and/or, (d) a student submits or presents work in one course which has also been submitted in another course (although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to

the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.

For information on academic misconduct and its consequences, please see the University of Calgary Calendar at <http://www.ucalgary.ca/pubs/calendar/current/k.html>

COPYRIGHT LEGISLATION:

All students are required to read the University of Calgary policy on Acceptable Use of Material Protected by Copyright (www.ucalgary.ca/policies/files/policies/acceptable-use-of-material-protected-by-copyright.pdf) and requirements of the copyright act (<https://laws-lois.justice.gc.ca/eng/acts/C-42/index.html>) to ensure they are aware of the consequences of unauthorised sharing of course materials (including instructor notes, electronic versions of textbooks etc.). Students who use material protected by copyright in violation of this policy may be disciplined under the Non-Academic Misconduct Policy.

FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY

Student information will be collected in accordance with typical (or usual) classroom practice. Students' assignments will be accessible only by the authorized course faculty. Private information related to the individual student is treated with the utmost regard by the faculty at the University of Calgary.

UNIVERSITY STUDENT APPEALS OFFICE: If a student has a concern about the course, academic matter, or a grade that they have been assigned, they must first communicate this concern with the instructor. If the concern cannot be resolved with the instructor, the student can proceed with an academic appeal, which normally begins with the Faculty.

<https://ucalgary.ca/student-appeals/>

More student support and resources (e.g. safety and wellness) can be found here:

<https://www.ucalgary.ca/registrar/registration/course-outlines>