
CIVE 450 – Green Building Design (Summer 2020)

We acknowledge with respect the Lekwungen peoples on whose traditional territory the University stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

NOTE: All time references provided in this course refer to Pacific Daylight Time (PDT)

Instructor: Tyler Best
Phone: 778-584-1341
E-mail: tybe@uvic.ca
Office: N/A

Office Hours
Days: Tue, Fri (By Appointment)
Time: 16:30-18:00 (By Appointment)
Location: By Appointment

Course TA: Milad Mahmoodzadeh

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List all prerequisites and co-requisites:

[CIVE210](#) - Sustainability in Civil Engineering

[CIVE352](#) - Reinforced Concrete Structural Design

Course Objectives

This course will cover following topics:

Design and construction concepts: site sustainability, water efficiency, energy flows, materials and resources, indoor environmental quality

Life cycle analysis methods: estimation of material and energy flows in the construction, operation, maintenance and decommissioning of the built environment

Innovative design and integration

LEED (Leadership in Energy and Environmental Design) certification criteria.

The materials covered in this course are related to fundamentals in [CIVE 210](#) and [CIVE 352](#) and is complementary to content covered in [CIVE 453](#).

Learning Outcomes

On completion of this course students will be able to:

- 1) Define the principles and objectives of green building design;
- 2) Identify appropriate tools and technologies available for green building design;
- 3) Comprehend the use and scope of green building rating systems; and
- 4) Design building envelopes for energy efficiency and durability.

The Pledge

All students are expected to make themselves aware of and abide by the University's policy and guidelines concerning academic integrity (see below). This is of particular importance given the increased flexibility and freedom provided by the online delivery of this course.

A pledge will be shared through CourseSpaces and, by end of Week 3, all students will be required to either accept, acknowledging and promising to exercise academic integrity throughout the duration of the course, or refuse (with valid reasoning provided).

Syllabus

Lecture(s):	A01/CRN 30134	Tutorial(s):	T01/CRN 30135
Days:	Mon, Thu	Days:	Thu
Time:	11:30-12:50	Time:	15:30-16:20
Location:	By Appointment	Location:	By Appointment

NOTE:

To accommodate students with connectivity issues and facilitate asynchronous learning, all lectures will be either recorded during live delivery or, later (starting on Week 3), pre-recorded and made available through CourseSpaces.

Recordings require post-processing (to meet upload restrictions, for example) - core content will be preserved to ensure consistency between live and recorded delivery.

Attendance for live lectures and tutorials is optional but recommended. Attendance may be more highly encouraged / required in cases where progress with course material is lagging.

Once delivery has transitioned to pre-recorded, the lecture / tutorial time slots will adapt in use to best suit the needs of the students (additional office hours, for example). No additional core content or workload demand will result.

Required Text

Title:	Sustainable Construction: Green Building Design and Delivery (4th Edition)
Author:	Charles J Kibert
Publisher:	Wiley
Year:	2016
Access:	link to online access available through UVic Library (login required)

References

Any relevant, referenced, or notable supplementary material that prove useful to facilitate learning of core curriculum, complete assignments, support term projects, provide additional value for continued learning or future reference, or otherwise augment / benefit the students' learning experiences will be distributed via CourseSpaces (either by link or direct upload).

Assessment

Assignments (1, 2, 3, 4)	30% (15%, 5%, 5%, 5%)	Week 2, 5, 8, 11
Quizzes (1, 2, 3)	30% (10%, 10%, 10%)	Week 4, 6, 10
Term Project	40 % (10% Presentation, 25% Report, and 5% Participation)	

Assignments

Four problem sets will be distributed over the course of the term via CourseSpaces.

The assignment problems will be a mix of concepts, theories and problems and may focus on all content covered up until that point (from start of term).

Students are encouraged to use their peers as a valuable resource but **are required to individually prepare, complete, and submit original deliverables for each assignment (per the Pledge).**

Assignment submissions are to be made via CourseSpaces by 23:59 on the date shown.

Assignment #	Modules	Start	Due
1	Concepts of Green Building	May 14	June 7
2	Design and Construction Concepts	June 8	June 21
3	Analysis Tools and Methods	June 22	July 12
4.	Critical Analysis of LCA	July 13	July 31

Quizzes

Three quizzes will be delivered over the course of the term via CourseSpaces.

The quiz problems will be a mix of concepts, theories and problems and may focus on all content covered up until that point (from start of term).

All quizzes will be open-book and will encourage the use of online resources, however **students are expected to work in isolation (independently with no use of peer resources) and are required to submit original deliverables for each quiz (per the Pledge).**

Quizzes will be time-limited to 30 minutes. Quizzes will be released on date shown at start of lecture (11:30) and will close at end of lecture (13:00) – 1.5 hours total allocated.

Quiz #	Modules	Date
1	Concepts of Green Building	May 28
2	Design and Construction Concepts	June 11
3	Analysis Tools and Methods	July 9

Projects

Term project will be based on evaluation of a presentation and report (with a participation allowance). Each group will have (approximately) 5 students and they will collectively contend with add the concept, design, performance and challenges of a Green Building Design. Details on group assignments, topics, and expectations to follow.

NOTE:

Course Withdrawal Deadlines (refer to shared course calendar):

- May 16: Withdrawal with 100% reduction of tuition fees
- June 6: Withdrawal with 50% reduction of tuition fees
- July 1: Last day for withdrawal (no fees returned)

The final grade obtained from the above marking scheme for the purpose of GPA calculation will be based on the percentage-to-grade point conversion table as listed in the current Undergraduate Calendar.

There will be no supplemental examination for this course.

Grading: Please see the Grading information in the current calendar at: <https://www.uvic.ca/calendar2020-05/undergrad/index.php/home#/policies>

Course policies and guidelines

Late Assignments: *No late assignments will be accepted unless prior arrangements have been made with the instructor at least 48 hours before the assignment due date.*

Coursework Mark Appeals: *All marks must be appealed within 7 days of the mark being posted.*

Attendance: We expect students attend all lectures and labs. It is entirely the students' responsibility to recover any information or announcements presented in lectures from which they were absent.

Electronic devices in labs and lectures: No unauthorized *audio* or *video* recording of lectures is permitted.

Electronic devices in midterms and exams: Calculators are only permitted for examinations and tests if explicitly authorized and the type of calculator permitted may be restricted. No other electronic devices (e.g. cell phones, pagers, PDA, etc.) may be used during examinations or tests *unless explicitly authorized.*

Plagiarism: Submitted work may be checked using plagiarism detection software. Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the link given below for the UVic policy on academic integrity. Note that the university policy includes the statement that "A largely or fully plagiarized assignment should result in a grade of F for the course."

Academic Integrity: You must make yourself aware of the University of Victoria guidelines and policy concerning fraud and academic integrity at this link, <https://www.uvic.ca/current-students/home/academics/academic-integrity/index.php>

Policy on Academic Integrity: <https://www.uvic.ca/calendar2020-05/undergrad/index.php#/policies>

Standards of Professional Behaviour: You are advised to read the Faculty of Engineering Document Standards for Professional Behaviour in current Undergraduate Calendar, which contains important information regarding conduct in courses, labs, and in the general use of facilities. Please find the document at this link: <https://www.uvic.ca/engineering/assets/docs/professional-behaviour.pdf>

Notes to Students:

Students who have issues with the conduct of the course should discuss them with the instructor first. If these discussions do not resolve the issue, then students should feel free to contact the Chair of the Department by email or the Chair's Secretary to set up an appointment.

University of Victoria Privacy Policy: If any student has concerns about their private information being stored or accessed outside of Canada, they are required to inform the course instructor about their concerns before the end of second week of classes.

Accommodation of Religious Observance: See entry in current Undergraduate Calendar.

Equality: This course aims to provide equal opportunities and access for all students to enjoy the benefits and privileges of the class and its curriculum and to meet the syllabus requirements. Reasonable and appropriate accommodation will be made available to students with documented disabilities (physical, mental, learning) in order to give them the opportunity to successfully meet the essential requirements of the course. The accommodation will not alter academic standards or learning outcomes, although the student may be allowed to demonstrate knowledge and skills in a different way. It is not necessary for you to reveal your disability and/or confidential medical information to the course instructor. If you believe that you may require accommodation, the course instructor can provide you with information about confidential resources on campus that can assist you in arranging for appropriate accommodation. Alternatively, you may want to

contact the Centre for Accessible Learning located in the Campus Services Building, <https://www.uvic.ca/services/cal/>.

The University of Victoria is committed to promoting, providing, and protecting a positive, and supportive and safe learning and working environment for all its members.

Sexualized Violence Prevention and Response at UVic: UVic takes sexualized violence seriously, and has raised the bar for what is considered acceptable behaviour. We encourage students to learn more about how the university defines sexualized violence and its overall approach by visiting www.uvic.ca/svp. If you or someone you know has been impacted by sexualized violence and needs information, advice, and/or support please contact the sexualized violence resource office in Equity and Human Rights (EQHR). Whether or not you have been directly impacted, if you want to take part in the important prevention work taking place on campus, you can also reach out:

Where: Sexualized violence resource office in EQHR; Sedgewick C119

Phone: 250.721.8021

Email: svpcoordinator@uvic.ca

Web: www.uvic.ca/svp

Policy on Inclusivity and Diversity: See the entry in the current Undergraduate Calendar.

Course Lecture Notes

Unless otherwise noted, all course materials supplied to students in this course have been prepared by the instructor and are intended for use in this course only. These materials are NOT to be re-circulated digitally, whether by email or by uploading or copying to websites, or to others not enrolled in this course. Violation of this policy may in some cases constitute a breach of academic integrity as defined in the UVic Calendar.

Syllabus statement

A note to remind you to take care of yourself. Do your best to maintain a healthy lifestyle this semester by eating well, exercising, getting enough sleep and taking some time to relax. This will help you achieve your goals and cope with stress. All of us benefit from support during times of struggle. You are not alone.

Counselling Services - *Counselling Services can help you make the most of your university experience. They offer free professional, confidential, inclusive support to currently registered UVic students.*

<https://www.uvic.ca/services/counselling/>

Health Services - *University Health Services (UHS) provides a full service primary health clinic for students, and coordinates healthy student and campus initiatives.* <http://www.uvic.ca/services/health/>

Centre for Accessible Learning - *The CAL staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations* <https://www.uvic.ca/services/cal/>. *The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

Elders' Voices - *The Office of Indigenous Academic and Community Engagement (IACE) has the privilege of assembling a group of Elders from local communities to guide students, staff, faculty and administration in Indigenous ways of knowing and being.*

<https://www.uvic.ca/services/indigenous/students/programming/elders/index.php>

The **Office of the Ombudsperson** is an independent and impartial resource to assist with the fair resolution of student issues. A confidential consultation can help you understand your rights and responsibilities. The Ombudsperson can also clarify information, help navigate procedures, assist with problem-solving, facilitate communication, provide feedback on an appeal, investigate and make recommendations.

Phone: 250-721-8357; Email: ombuddy@uvic.ca; Web: uvicombudsperson.ca.