CIVE 450 – Green Building Design

Term – Summer 2016 (201605)

Instructor
Dr. Phalguni Mukhopadhyaya
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E-mail: phalguni@uvic.ca

Office Hours
Days: Wednesday & Friday
Time: By Appointment Only
Location: ECS 318

List all prerequisites and co-requisites: CIVE 210 and CIVE 352

LECTURE DATE(S)
Section: A / CRN30125
Days: Tuesday, Wednesday, Friday
Time: 11:30 am - 12:20 pm
Location: Engineering Comp Science Bldg 104

TUTORIAL SECTIONS
Section: T / CRN30126
Days: Tuesday
Time: 12:30 pm - 1:20 pm
Location: Engineering Comp Science Bldg 104

TA Name
Sahand Behboodi Kalhori
E-mail: behboodi@uvic.ca

Required Text
Title: Sustainable Construction: Green Building Design and Delivery
Author: Charles J. Kibert
Publisher/Year: John Wiley & Sons, Inc./2012

Optional Text
Building Science: Concepts and Application
Jens Pohl
John Wiley & Sons, Inc./2011

Reference Materials: To be provided during the class.

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, including 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, CIVE 295 and CIVE 352.
LEARNING OUTCOMES:
On completion of this course students will be able to: (1) explain the fundamentals of building design and construction, (2) define the principles and objectives of green building design, (3) identify appropriate tools and technologies available for green building design, (4) comprehend the use and scope of green building rating systems, and (5) design building envelopes for energy efficiency and durability.

<table>
<thead>
<tr>
<th>Weight &amp; Date(s) of Assessments:</th>
<th>Weight</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments</td>
<td>20 %</td>
<td>2nd week, 5th week, 8th week, 11th week</td>
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<tr>
<td>Mid-term</td>
<td>30 %</td>
<td>8th week</td>
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<tr>
<td>Final Exam – Project Presentation and Report</td>
<td>50 % (25% Presentation and 25% Report)</td>
<td>Presentation starting from 11th Week. Report to be submitted on August 10th 2016 (5:00 PM).</td>
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ASSIGNMENTS

Four problem sets will be distributed over the course of the term via the CIVE 450 Course Space site. The assignment problems will be a mix of concepts, theories and problems. **Students are required to work independently on each assignment.**
Assignment hardcopy submissions are to be made to the CIVE 450 dropbox.

<table>
<thead>
<tr>
<th>Assignment #</th>
<th>Modules</th>
<th>Start</th>
<th>Due (5 pm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Concepts of Green Building</td>
<td>09/05</td>
<td>31/05</td>
</tr>
<tr>
<td>2</td>
<td>Design and construction concepts</td>
<td>03/06</td>
<td>14/06</td>
</tr>
<tr>
<td>3</td>
<td>Analysis tools and methods</td>
<td>24/06</td>
<td>05/07</td>
</tr>
<tr>
<td>4</td>
<td>Innovative design and LEED</td>
<td>15/07</td>
<td>26/07</td>
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PROJECTS:

Final exam will be based on evaluation of Green Building Design project presentation and report. Each Green Building Design project team will have 3 students and they will collectively deal with the issues related to the Green Building concept, design, performance and challenges.

NOTE:
- Failure to pass the final exam will result in a failing grade for the course.
- 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.

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.

**Assignment of E grade and supplemental examination for this course will be at the discretion of the Course Instructor. The rules for supplemental examinations can be found in the current Undergraduate Calendar.**
Note 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.

“Attendance
Students are expected to attend all classes in which they are enrolled. An academic unit may require a student to withdraw from a course if the student is registered in another course that occurs at the same time....

An instructor may refuse a student admission to a lecture, laboratory, online course discussion or learning activity, tutorial or other learning activity set out in the course outline because of lateness, misconduct, inattention or failure to meet the responsibilities of the course set out in the course outline. Students who neglect their academic work may be assigned a final grade of N or debarred from final examinations.

Students who do not attend classes must not assume that they have been dropped from a course by an academic unit or an instructor. Courses that are not formally dropped will be given a failing grade, students may be required to withdraw and will be required to pay the tuition fee for the course.” UVic Calendar, (2015) http://web.uvic.ca/calendar2015-09/FACS/UnIn/UARe/Atte.html

Accommodation of Religious Observance (AC1210) http://web.uvic.ca/calendar2015-09/GI/GUPo.html

Discrimination and Harassment Policy (GV0205) http://web.uvic.ca/calendar2015-09/GI/GUPo.html

Faculty of Engineering, University of Victoria Standards for Professional Behaviour
“It is the responsibility of all members of the Faculty of Engineering, students, staff and faculty, to adhere to and promote standards of professional behaviour that support an effective learning environment that prepares graduates for careers as professionals....”

You are advised to read the Faculty of Engineering document Standards for Professional Behaviour which contains important information regarding conduct in courses, labs, and in the general use of facilities. http://www.uvic.ca/engineering/current/undergrad/index.php#section0.23

Cheating, plagiarism and other forms of academic fraud are taken very seriously by both the University and the Department. You should consult the Undergraduate Calendar for the UVic policy on academic integrity.

Policy on Academic Integrity http://web.uvic.ca/calendar2015-09/FACS/UnIn/UARe/PoAcI.html