

# CIVE 5705: ADVANCED BUILDING CHARACTERIZATION, CONSERVATION AND REHABILITATION

## COURSE SYLLABUS – FALL 2018

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**INSTRUCTOR:** **Laurie Smith**, M.A., LLB.  
[Laurie.smith3@Carleton.ca](mailto:Laurie.smith3@Carleton.ca)  
613-520-2600 x7468  
Carleton Immersive Media Studio (CIMS)  
Visualization & Simulation (VSIM) Building, 4<sup>th</sup> floor

**CLASS LECTURES:** Mondays 18:05pm – 8:55pm  
September 10 – December 3 (no class October 8 or 22) + December 7, 2018  
University Centre 378

## Course description

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This course will provide graduate students with an understanding of the fundamental concepts and techniques for the identification, documentation and conservation of heritage buildings and existing buildings. The course includes lectures and workshops by experts representing the key disciplines and practice areas involved in heritage conservation and documentation.

The course comprises three hours per week of lectures, plus additional activities assigned by the course instructor.

At the completion of the course, the student will be able to:

- Discuss and apply the fundamental concepts involved in the identification and conservation of heritage places in Canada and internationally;
- Understand digital workflows for identifying, recording, modelling, assessing, analyzing and interpreting existing buildings and sites;
- Apply and conduct research to identify heritage values and attributes of buildings and sites;
- Apply and conduct techniques for recording and modelling existing buildings and sites;
- Apply and conduct techniques for energy modelling;
- Apply and conduct research on construction materials, assemblies and building envelopes for rehabilitation and preventative maintenance purposes;
- Understand the role of monitoring systems in improving the maintenance and care of existing buildings;
- Understand and apply heritage conservation approaches such as heritage impact assessments and conservation plans;
- Understand the roles of different disciplines, government authorities and organizations in heritage conservation and rehabilitation; and
- Understand and apply ethical principles in heritage decisionmaking.

Prerequisites: open to all graduate students with a particular interest in heritage structures.

## Biographical sketch of instructor

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Degrees: B.A. (McMaster); M.A. (OttawaU); LL.B. (Queen's)

Laurie Smith has worked as a professional in heritage conservation for close to 20 years, first as a consultant and now as a manager and adjudicator. She coordinates the NSERC CREATE Heritage Engineering Program at Carleton <https://carleton.ca/heritageengineering/> and is Manager of Research Operations at Carleton Immersive Media Studio <http://www.cims.carleton.ca/>. Laurie is vice-chair of the Conservation Review Board, a provincial tribunal that adjudicates matters under the *Ontario Heritage Act* <http://elto.gov.on.ca/tribunals/crb/about-the-crb>.

## Course Website & Communication

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All course information, including lecture notes, readings and other resources, will be available through cuLearn. All assignments must be submitted through cuLearn. All students are responsible for ensuring that they are correctly registered through cuLearn and are receiving messages properly through their official university email address. Students are responsible for checking the cuLearn course management site and their official email account frequently.

I am happy to answer questions related to course content or administration via email. I will endeavor to reply to emails as soon as possible, but please expect a possible delay of up to 48 hours for a response and do not expect a response on Saturday or Sunday. Emails must come from official Carleton University email addresses or through cuLearn. I will not respond to emails from outside addresses.

I am happy to meet with you to discuss course content or administration, provided you set up an appointment with me by email. My office is located in the Carleton Immersive Media Studio (CIMS) on the 4<sup>th</sup> floor of the Visualization and Simulation (VSIM) Building.

## Class schedule

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*Please note that this schedule is subject to change.*

Date	Session	Title
September 10	Week 1	Introduction to the Course. Why is this place significant and what should I do about it? Introductory exercise.
September 17	Week 2	Making decisions about heritage properties. Field exercise on heritage evaluation. <b>Assignment 1 due.</b>

September 24	Week 3	<p>Documenting heritage/existing buildings – Part 1.</p> <p>Field exercise on photogrammetry and laser scanning.</p> <p>Presentation of case studies in photogrammetry &amp; laser scanning.</p> <p><i>Guests: Christian Ouimet, HCS, PSPC; and Darby Ace, CIMS.</i></p>
October 1	Week 4	<p>Documenting heritage/existing buildings – Part 2.</p> <p>Lab exercise on photogrammetry.</p> <p>Presentation of case studies in photogrammetry &amp; laser scanning.</p> <p><b>Assignment 2 due.</b></p> <p><i>Guests: Darby Ace and Sujan Shrestha from CIMS.</i></p>
October 15	Week 5	<p>Research Approaches.</p> <ul style="list-style-type: none"> <li>- OSCAR and APT</li> <li>- Historical &amp; Architectural Research</li> <li>- Case study from Brussels</li> </ul> <p><i>Guests: Carly Farmer, MTBA; and Alice Paladini, KU Leuven</i></p>
October 29	Week 6	<p>Structural considerations – seismology.</p> <p>Exercise in seismology.</p> <p><b>Assignment 3 due.</b></p> <p><i>Guests: Prof. Jeff Erochko and Raluca Dobrotescu</i></p>
November 5	Week 7	<p>Energy modelling in heritage structures.</p> <p>Case studies in heritage impacts and conservation planning.</p> <p><i>Guests: Prof. Liam O’Brien and James Maddigan, Architecture 49.</i></p>
November 12	Week 8	<p>Building Information Modelling.</p> <p>Digitally Assisted Storytelling.</p> <p>Lab exercise in BIM and DAS.</p>

		<i>Guests: Lara Chow and Katie Graham from CIMS.</i>
November 19	Week 9	Material considerations.  Exercise in community consultation.  <b>Assignment 4 due.</b>  <i>Guest: John Cooke, John Cooke &amp; Assoc. Engineers</i>
November 26	Week 10	Becoming a professional: skills, ethics and heritage organizations.  <i>Guest: Brad Wallace, P. Eng.</i>
December 3	Week 11	Loose ends and student presentations ( <b>Assignment 5</b> ).
December 7 (Friday)	Week 12	Student presentations ( <b>Assignment 5</b> ).

## Bonus Activities

Attendance at the following bonus activities is required for NSERC CREATE students, optional for other students (see grading for Bonus Assignment).

Date	Session	Title
September 28	A - 1	<b>NSERC CREATE Ethics Workshop</b> (9:30am-12:00pm) Location: CIMS, VSIM Building, 4 <sup>th</sup> floor
October 11	A - 2	<b>NSERC CREATE Heritage Forum</b> (9:30am – 4:30pm) Location: CIMS, VSIM Building, 4 <sup>th</sup> floor
October 12	A - 3	<b>NSERC CREATE Heritage Workshop</b> (9:30am – 4:30pm) Location: CIMS, VSIM Building, 4 <sup>th</sup> floor
November 23	A - 4	<b>Mortars in Masonry Workshop</b> (9:30am – 4:30pm) Location: TBC

Attendance at the following activities is optional for all students. See grading for Bonus Assignment.

Date	Session	Title
September 13		<b>Built Heritage Sub-Committee</b> , City of Ottawa (9:30am) Location: City Hall, Elgin Street

October 11		<b>Built Heritage Sub-Committee</b> , City of Ottawa (9:30am) Location: City Hall, Elgin Street
November 8		<b>Built Heritage Sub-Committee</b> , City of Ottawa (9:30am) Location: City Hall, Elgin Street
December 3		<b>Built Heritage Sub-Committee</b> , City of Ottawa (9:30am) Location: City Hall, Elgin Street

## Grading

Item	Weight for final grade	Due date
<b>Course compliance</b> - Students are expected to attend all lectures, arrive on time, participate in class discussions and provide feedback about assignments. Absences will generally be excused only for emergencies.	20%	
<b>Assignment 1 (mandatory)</b> - Prepare an introductory page outlining your research interests, your background, and your objectives in taking the course.	10%	<b>Sept 17, 2018, 6pm</b>
<b>Assignment 2 (mandatory)</b> - Photograph a building/site for the photogrammetry workshop	(included in Assignment 4)	<b>October 1, 2018, 6pm</b>
<b>Assignment 3 (mandatory)</b> – Working alone, review an academic article or research a technical treatment.	20%	<b>October 29, 2018, 6pm</b>
<b>Assignment 4 (mandatory)</b> – Report: working in pairs, create a heritage conservation workflow for a site, with at least six components.	30%	<b>Draft due November 19, 2018, 6pm. Final due December 7.</b>
<b>Assignment 5 (mandatory)</b> – Presentation: working in pairs, present a heritage conservation workflow for a site, with at least six components.	20%	<b>December 3 &amp; 7, 2018</b>
<b>TOTAL</b>	100%	
<b>Bonus Assignment (optional)</b> – attend and report on one of the additional activities	10%	<b>December 7, 2018</b>

## Academic Accommodation

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You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

**Pregnancy obligation:** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit [the Equity Services website](#).

**Religious obligation:** Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit [the Equity Services website](#).

**Academic Accommodations for Students with Disabilities:** If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor to ensure accommodation arrangements are made. For more details, visit [the Paul Menton website](#).

**Survivors of Sexual Violence:** As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support).

**Accommodation for Student Activities:** Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see [the policy](#).

# Academic Integrity

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The University Senate defines plagiarism as “presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.” This can include:

- reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source;
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, or paraphrased material, concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings;
- failing to acknowledge sources through the use of proper citations when using another’s works and/or failing to use quotation marks;
- handing in "substantially the same piece of work for academic credit more than once without prior written permission of the course instructor in which the submission occurs.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

## **FINAL GRADES**

Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.

## **COURSE COPYRIGHT**

My lectures and course materials (including all PowerPoint presentations, handouts, and similar materials) are protected by copyright. I am the exclusive owner of copyright and intellectual property of all course materials. You may take notes and make copies of course materials for your own educational

use. You may not allow others to reproduce or distribute lecture notes and course materials publicly for commercial purposes without my express written consent.