

THE UNIVERSITY OF WESTERN ONTARIO
FACULTY OF ENGINEERING
DEPARTMENT OF CIVIL and ENVIRONMENTAL ENGINEERING

CEE 9695 – Assessment and Retrofit of Masonry Structures
Course Outline – Summer 2022

- OBJECTIVES:** The objectives of this course are for the student to become able to:
1. Introduce the students to the characteristics of ancient, transit and modern masonry materials and systems
 2. Understand the evaluation and retrofit process of masonry structures
 3. Perform site investigation and analysis of existing masonry structures
 4. Recognize available techniques used to repair, strengthen or upgrade existing masonry structures on both the local member level and global system level.
 5. Understand how to track building envelope response to structural and environmental loads using local and global monitoring techniques.
 6. Recognize maintenance process and activities including cleaning of masonry walls
 7. Learn how to develop a rational methodology for different types of masonry assessment and retrofit projects via case studies.

PREREQUISITES: Architectural, Civil or Mechanical undergraduate engineering degree.

TOPICS: Introduction to ancient, transit and modern masonry, evaluation and retrofit process, site investigation and analysis, retrofit techniques.

OUTLINE

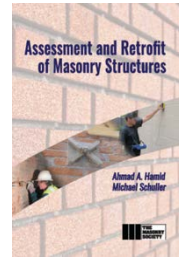
Week 1: Introduction to ancient masonry
Week 2: Introduction to modern masonry
Week 3: Evaluation and retrofit process
Week 4: Site Investigation
Week 5: Retrofit

CONTACT HOURS: 2 lecture /week, 3 hours each. May 16 to June 17, 2022.

INSTRUCTOR: Dr. Ahmad Hamid, Emeritus Professor of Civil Engineering, Drexel University, Philadelphia, USA. E-Mail: hamidaa@drexel.edu

TEXT:

Textbook “Assessment and Retrofit of Masonry Structures”, Ahmad Hamid and Michael Schuller, published by The Masonry Society in 2019. A deeply discounted price of US\$ 40.00 is available for students in this course (Amazon price is \$180.00)

**LABORATORY:**

There is no formal laboratory component of this course.

EVALUATION:

Assignments (5)	40%
Project (due date is June 30)	20%
Final Exam	40%

CHEATING:

University policy states that cheating is a scholastic offence. The commission of a scholastic offence is attended by academic penalties that might include expulsion from the program. If you are caught cheating, there will be no second warning. For further information on scholastic offences, please see: http://grad.uwo.ca/current_students/graduate_regulations/section_10.htm

ENGLISH:

In accordance with Senate and Faculty Policy, students may be penalised up to 10% of the marks on all assignments, tests and examinations for the improper use of English. Additionally, poorly written work with the exception of final examinations may be returned without grading. If resubmission of the work is permitted, it may be graded with marks deducted for poor English and/or late submission.

CONDUCT:

Students are expected to arrive at lectures on time, and to conduct themselves during class in a professional and respectful manner that is not disruptive to others. Late comers may be asked to wait outside the classroom until being invited in by the Instructor. Please turn off your cell phone before coming to a class or exam. On the premises of the University or at a University-sponsored program, students must abide by the Student Code of Conduct: <http://www.uwo.ca/univsec/board/code.pdf>

CONSULTATION:

Students are encouraged to discuss problems with their instructor at the end of the lecture, or during individual consultations arranged by appointment.

SICKNESS OR OTHER

PROBLEMS:

Students should immediately consult with the Department of Civil and Environmental Engineering if they are ill or have any other problems that could affect their performance in the course. Where appropriate, the problems should be documented (see attached). The student should seek advice from the Instructor concerning the recovery of work missed. Failure to notify the Department of illness or any other matter that could affect academic performance immediately (or as soon as possible thereafter) will have a negative effect on any appeal.

NOTICE:

Students are responsible for regularly checking their email and notices posted on course site on OWL.