

**ARE 345K: MASONRY ENGINEERING****Instructor:** Professor Raissa P. Ferron**Email:** [rferron@mail.utexas.edu](mailto:rferron@mail.utexas.edu)**Office Location:** ECJ 4.704**Office Phone:** 512-232-2691

**Office Hours:** Mondays & Wednesdays 11am to 12pm on Mon and Wed on class days only, or by appointment. Concealed carry of handguns is not permitted in Dr. Ferron's office.

**Course Website:** Canvas. <http://canvas.utexas.edu/>**Prerequisites:** CE329; CE 324P**Meetings Days/Times:** Mondays 10:00 – 11:00 am; Fridays 12:00 – 3:00 pm**Lectures Location:** ECJ 3.402; **Lab Location:** TBA**Final Exam:** Monday, Dec 17, 9 – 12:00pm**Required Textbook:**

- (a) Klingner, R. E., *Masonry Course Notes*, January 2012, will be posted on Canvas in pdf format.
- (b) 2013 Masonry Building Code Requirements and Specification for Masonry Structures (TMS 402-13 / ACI 530-13 / ASCE 5-13 → *Building Code Requirements for Masonry Structures* and TMS 602-13 / ACI 530.1-13 / ASCE 6-11 → *Specification for Masonry Structures*)
- (c) 2013 Masonry Designers' Guide

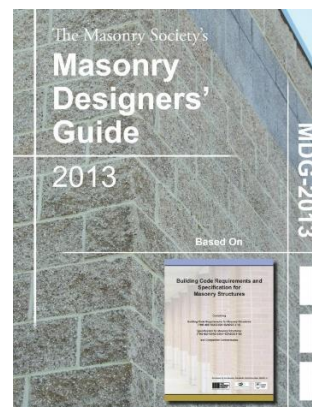
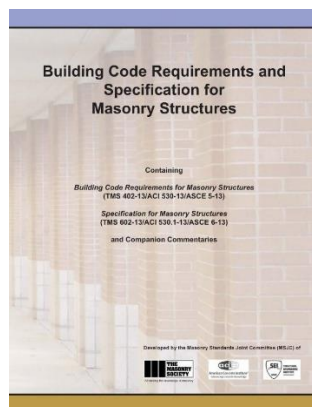


Figure 1: Covers of Required Textbook b and Required Textbook c

Notes: Required Textbook b and c will be purchased from The Masonry Society by the instructor and re-sold at cost to students.

**Course Description:** This is an introductory course focusing on masonry materials and design. The objective of this course is to provide an introduction to the behavior of masonry materials and components and to present methods for design of masonry building, primarily concentrating on masonry wall systems.

**My teaching philosophy:** You all belong here and are capable of excelling in this class. Let's work together to make that happen.

**What you will learn:** By the end of this course, you should be able to:



- ☐ Discuss fundamental trends in the history of masonry construction.
- ☐ Describe the nomenclature, properties, and material specifications associated with each basic component of masonry (units, mortar, grout, accessory materials).
- ☐ Describe how masonry assemblages behave with respect to differential movement
- ☐ Summarize several current and future challenges in masonry construction



- ☐ Design simple masonry structures (requiring little structural calculation) for satisfactory performance with respect to the characteristics covered in (3) above.
- ☐ Perform structural calculations for unreinforced and reinforced masonry elements, using the strength design.



- ☐ Construct simple masonry elements.
- ☐ Identify visually cracking and durability issues in masonry and provide possible causes for the distress.

**Course Grade Distribution:** Figure 2 presents the distribution for which the overall course letter grade is based:

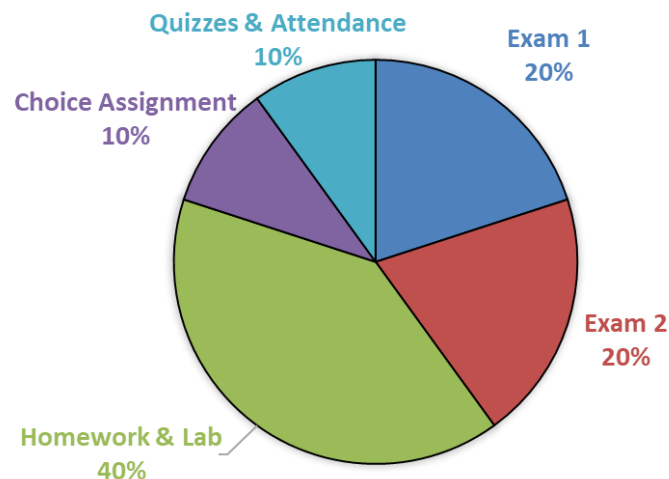


Figure 2: Major requirements for course numerical grade

The plus/minus (+/-) grading system will be used in the final course grade calculation.

Read below for additional details regarding the some of the items shown in Figure 2:

➤ ***Homework & Labs:***

All homework and lab assignments, except specific problems requiring numerical calculations, must be typed. Non-typed homework problems will receive 15% score penalty. For numerical calculation problems, the details of relevant calculations must be shown with the correct units, and the solution should be clearly designated (i.e. boxed off, bolded, etc).

**All assignments must have a TYPED cover sheet with the following information:**

**student(s) name, the class name, assignment number, date assignment is due, and**

**Professor's Ferron name.** Unless otherwise stated, HW and lab assignments are due at the beginning of class on their due date within the first 10 minutes. Additional details regarding HW & Lab policy will be posted on Canvas. Assignments received after the deadline but before 11:59:59 PM on the same day will be penalized 15% of the total grade; a 25% penalty will be assigned if it is not submitted by between 12:00:00 AM - 5:00:00 PM CST on the following day. No assignments will be accepted after this point. **Late assignments must be sent to Prof. Ferron's inbox through CANVAS.**

➤ ***Exams:***

Students are expected to take the exams at the scheduled times. These dates will be posted on the course schedule. Students must notify the instructor in advance if they are unable to take an exam. Make-up exams will be given only when adequate supporting evidence is furnished. A doctor's note must be provided if an illness prevents you from taking an exam.

➤ ***Quizzes and Attendance:***

Pop quizzes will be held periodically during the semester. These pop quizzes will count towards your attendance grade. **No make ups are allowed on the pop quizzes. Students get three free waivers for absences on pop quizzes during the semester.** No additional waivers will be allowed regardless of the reason. Once these three waivers have been used, then zero credit is received for quizzes and attendance. Note, no 'free' unexcused absences are allowed on lab days, field trip days, days with guest speakers, and student presentation days, unless for observance of a religious holiday or emergency medical reason. **If a student misses a lab or student presentation day, a 50% grade penalty will be applied to your grade on that assignment. If a student misses a field trip day or guest speaker day, then a 50% penalty will be applied towards your quizzes and attendance zero grade for the first miss. After that, zero credit will be received for quizzes and attendance portion of your grade for any additional misses.** No assignment penalty is applied if student misses a lab day, field trip day, guest speakers day, or student presentation day if the student is absent due to a observance of a religious holiday, providing student notifies Prof. Ferron at least 14 days prior to the date of observance of the religious holiday. Otherwise, Prof. Ferron's discretion will apply in other situations. If you miss class, it is your responsibility to make sure that you are aware of any announcements that have been made and that you are familiar with the material covered in class. You are responsible for all material and administrative instructions given during an absence.

Additional course information

**Grade disputes:** Any grade disputes must be submitted in writing via email to Prof. Ferron within 3 calendar days after the graded work is posted on blackboard or distributed back to the class, whichever occurs first, regardless of whether the student in question was present in class or not. No dispute will be accepted after the deadline. Prof. Ferron will confirm receipt of your email via email within 48 hours. If you do not receive email confirmation from Prof. Ferron that your dispute email was received by her, then you should assume the email was not received and you should submit the dispute to Prof. Ferron in person.

**Personal Pronoun Preference:** Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, culture, religion, politics, sexual orientation, gender, gender variance, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make appropriate changes to my records.

**Copying and distributing lecture materials:** Students do not have the right to copy and/or distribute the course materials for outside usage unless Prof. Ferron expressly grants permission. These materials include but are not limited to syllabi, lecture hand outs, quizzes, exams, in-class materials, review sheets, and additional problem sets.

**Professionalism:** You are expected to treat your instructor and all other participants in the course with courtesy and respect. Your comments to others should be factual, constructive, and free from harassing statements. Unprofessional or disrespectful conduct will result in a lower grade on an assignment.

**Scholastic Dishonesty:** Giving aid to a student during an exam or taking information from another student's exam constitutes scholastic dishonesty. Submitting another student's laboratory report or homework assignment and representing it as your own work also constitutes scholastic dishonesty, as does copying text from the laboratory manual or any other published document. Students are not discouraged from working together outside of class, but submitting identical or similar assignments is unacceptable (with the exception of explicitly stated team-based homework, projects, or reports). If students are found to have cheated on homework, exams, or laboratory reports, all students involved will be held responsible. For additional information regarding academic dishonesty and UT's honor code, see the Dean of students' website and University General Information Catalog at: <http://deanofstudents.utexas.edu/conduct/> and <http://catalog.utexas.edu/general-information/appendices/appendix-c/student-discipline-and-conduct/>.

**Course Evaluation:** An evaluation of the course and instructor will be conducted at the end of the semester using the approved UT Course/Instructor evaluation forms. Students are also encouraged to provide feedback to the instructor throughout the course.

**Drop Dates:**

- **Undergraduate students:** From the 1<sup>st</sup> through the 12<sup>th</sup> class day (4<sup>th</sup> class day in the summer sessions), an undergraduate student can drop a course via the web and receive a refund, if eligible. From the 13<sup>th</sup> (5<sup>th</sup> class day in the summer sessions) through the university's academic drop deadline, a student may Q drop a course with approval from the Dean, and departmental advisor.
- **Graduate students:** From the 1st through the 4th class day, graduate students can drop a course via the web and receive a refund. During the 5th through 12th class day, graduate students must initiate drops in the department that offers the course and receive a refund. After the 12th class day, no refund is given. No class can be added after the 12th class day. From the 13th through the 20th class day, an automatic Q is assigned with approval from the Graduate Advisor and the Graduate Dean. From the 21st class day through the last class day, graduate students can drop a class with permission from the instructor, Graduate Advisor, and the Graduate Dean. Students with 20-hr/week GRA/TA appointment or a fellowship may not drop below 9 hours.

**Students with Disabilities:** The University of Texas at Austin provides, upon request, appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 512-471-6259 (Videophone: 512-410-6644) or <http://diversity.utexas.edu/disability/>

**Emergency Evacuations:** Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside. Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building. Students requiring assistance in evacuation should send an email to Prof. Ferron during the first week of class to inform her. In the event of an evacuation, follow the instruction of faculty or class instructors. Do not re-enter a building unless given instructions by the following: Austin Fire Dept., The University of Texas at Austin Police Dept., or Fire Prevention Services office. Further information regarding emergency evacuation routes and emergency procedures can be found at: [www.utexas.edu/emergency](http://www.utexas.edu/emergency)

**Class Web sites and student privacy:** Students who do not want their names included in electronic class rosters must restrict their directory information. For information on restricting directory information, see the Undergraduate Catalog or go to: <http://www.utexas.edu/student/registrar/catalogs/ug02-04/index.html>.

**Mental health and Wellness Resources:** Being in school, while handling everything else in life, can be stressful. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, please know that services are available:

- Counseling and Mental Health Crisis Line: 512-471-CALL (2255). This is a confidential service that allows you to talk with trained counselors about urgent concerns regarding yourself.
- Counseling and Mental Health Center: 512-417-3515; <https://cmhc.utexas.edu/>

- Please note, that Jeni Wade is the Counselor in Academic Residence (CARE) counselor for CSE. Her office is located in EER 2.812 and office number is 512-471-8396.
- Behavior Concerns Advice Line (BCAL) 512-232-5050. BCAL is a 24-hour/seven-days-a-week advice line, providing students, faculty and staff an opportunity to discuss their concerns about another individual's behavior. For more information visit the BCAL website: <http://www.utexas.edu/safety/bcal/>
- Student Ombuds Office: Call 512-471-3825 or visit <https://ombuds.utexas.edu/student>. This is a confidential service provided you can use to discuss interpersonal difficulties, university policies and bureaucracy issues, and conflict resolution techniques.