AREN 2050
BUILDING SYSTEMS AND MATERIALS
Global Seminar – Valencia, Spain
(Summer, 2016)

CLASSROOM: TBD
CLASS TIME: TBD (potentially 9:00am – 12:00pm)
PROFESSOR: Matt Morris
OFFICE: TBD
OFFICE HOURS: TBD
(Note: Office hours are for learning so please come prepared to use our time together efficiently)
EMAIL: matthew.morris@colorado.edu
TA: There is no TA assigned to this course


PURPOSE OF COURSE

The purpose of this global seminar is to provide an enriching cultural and historical experience for you while satisfying a core engineering course. You will investigate the broad subject of building materials, building assembly details, systems and methods of building construction. You will explore codes and classifications, construction contracts types, foundations, wood, steel, concrete, masonry, cladding, doors and windows, interiors, finishes, mechanical, electrical, plumbing, life safety and conveyance systems. There will be a blend of classroom presentations, site visits and exploration. The classroom delivery will focus primarily on modern building construction. Outside of the classroom, you will explore the similarities and differences between historic and modern construction systems and materials by touring Valencia and destinations in the region. There are ample structures within walking distance of Universidad Politecnica de Valencia, providing excellent opportunities for daily examples. World famous architect and engineer Santiago Calatrava’s work can be seen throughout his home town of Valencia. Major historic monuments are also readily accessible. Two trips will be planned during the seminar. Students will explore the world-renowned architecture and engineering feats in Barcelona, specifically La Sagrada Familia, during a 2-night trip. A day trip to Cuenca, Spain, will be planned to explore the hanging houses on the cliffs, historic cathedrals and bridges. Upon completion of the course, you will have a
foundational understanding of building systems and the process required to construct a building. Additionally, you will gain an appreciation for how engineering and construction has evolved over time along with international architecture and customs. 

**Lastly, my goal is to inspire you to continue learning about engineering and construction as you complete your education and begin your professional careers.**

Course learning objectives

1. Identify the numerous building components, materials and systems
2. Understand the sequence and relationship between building assemblies
3. Identify similarities and differences between historic and modern construction systems and materials
4. Develop a precise engineering and construction vocabulary
5. Understand the similarities and differences between engineering and construction in the United States and in an international setting

**GRADE PLAN**

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<tr>
<th>Requirement</th>
<th>Points</th>
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<tr>
<td>Homework (4 @ 100pts each)</td>
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<tr>
<td>Group Presentation (Construction Topic)</td>
<td>100</td>
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<tr>
<td>Midterm Exam (1 @ 200 pts)</td>
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<td>Final Exam or Report (Comprehensive)</td>
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<td><strong>TOTAL</strong></td>
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This course will not be graded on a curve. I reserve the right to increase grades for exemplary participation, effort, or achievement; but I will never reduce your grade unless there is a breach of the code of ethics or if you fail to participate in class, projects, or activities.

**LEARNING ACTIVITIES AND EVALUATIONS**

**Homework:**

a. The policy on homework submission is based upon the principal that in the real world you should not be late. You should realize that in the professional practice of engineering and construction, late submissions are generally not accepted and often result in the loss of employment opportunities for a firm, and the subsequent loss of individual employment! **Homework is due by the beginning of class on the due date.**

b. Late submissions are divided into two categories and will be handled accordingly.

   (1) A “COORDINATED LATE” submission occurs when you know you will miss the due date for a graded homework assignment and you contact me
in advance. Notification must be made in person face-to-face or by email. Notification immediately before the assignment is due will not suffice. Point cuts up to the amounts below may be assessed for a “COORDINATED LATE” submission:

1. 0-24 hours late a deduction of 25% the of earned grade
2. 24 hours + No credit

(2) An “UNCOORDINATED LATE” submission occurs when you miss a deadline without proper coordination. No credit will be given for the assignment.

Presentation: Working in teams established at the beginning of the semester, each team will be assigned a topic to research and present a paper in class.

Exams: Exams will address major concepts and terms covered in class and in reading assignments. One mid-term exam and a final exam (or report) are planned.

Quizzes: Pop quizzes may be given periodically at the beginning of class.

EXPECTATIONS

- Be on time!
- Be considerate - No cell phones, YouTube, Netflix, headphones, etc.
- Complete reading and review assigned handouts before attending class. Reading assignments in advance of each class lay the foundation for more interaction and discussion.
- You will be called upon in class to answer questions and to facilitate discussion. Your active participation will accelerate your learning and understanding and make the class more enjoyable for everyone.
- I will not cover all of the concepts in the text during class time. The expectation is that some concepts students are expected to master from reading the text. If you have questions on any aspect of the text not discussed in class please ask questions either during class or office hours.
- Exams will include some material from the text not covered in class.

PLEASE MONITOR YOUR EMAIL INBOX CLOSELY DURING THE SEMESTER AS I OFTEN WILL UTILIZE EMAIL TO COMMUNICATE COURSE UPDATES AND OTHER IMPORTANT INFORMATION.

Disability Statement
If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community, N200, and http://www.colorado.edu/disabilityservices.
Religious Observance Statement
Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. See full details at http://www.colorado.edu/policies/fac_relig.html.

Classroom Behavior Statement
Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran’s status, sexual orientation, gender, gender identity, and gender expression, age, disability, 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. See policies at http://www.colorado.edu/policies/classbehavior.html and at http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code.

Discrimination and Harassment Statement
The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships Policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127, or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh.

Student Honor Code Statement
All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode/.

Note: This syllabus is subject to change during the semester at the instructor’s discretion.