

Course Content

- 1 Structural Systems**
 - a. Recap of Structural Element Types
 - b. Recap of System Characteristics
 - c. Discussion of Failure Modes

- 2 Structural Analysis**
 - a. Forces and Loads
 - b. Statics
 - c. Internal Stress Diagrams
 - d. Load Path Determination

- 3 Structural Design**
 - a. Beam Design
 - b. Column Design

- 4 Structural Integration**
 - a. Primary, Secondary, Tertiary, etc. Structure
 - b. Integration into Architectural Designs

Evaluation

The course evaluation will be based on the assignments completed during the term. There will be no final examination. Assignments will be judged upon:

- Accuracy of solutions.
- Responsiveness and relevance to specifics of assignment.
- Clarity of physical and textual presentation.
- Clarity of analysis.
- Quality of integration of structural system within design (assignments 6&7).
- Overall quality of work.

Note: A passing grade in assignments 6 & 7 is required in order to pass the course as a whole.

Late assignments without prior approval will be penalized at -5% per day late.

Course assignments will be weighted as follows:

Assignment	Topic	Percent of Total Grade
1	Bridge Design	10
2	Statics	10
3	Shear and Moment	10
4	Beam Sizing	10
5	Column Sizing	10
6	Primary System Design	25
7	Design Integration	25
	TOTAL	100

Performance Criteria

Primary:

- Structural Systems
- Detailed Design Development
- Building Systems Integration

Secondary:

- Life Safety Systems
- Building Materials
- Building Economics
- Technical Documentation
- Comprehensive Design

Grading Scheme

A+	90-100%	C+	66-69%
A	85-89%	C	63-65%
A-	80-84%	C-	60-62%
B+	76-79%	D+	56-59%
B	73-75%	D	50-55%
B-	70-72%	F	0-49%

Required Reading (to be available in the UofC Bookstore)

Ambrose, Janes; Tripeny, Patrick Simplified Engineering for Architects and Builders
Wiley, 2010 (11th Edition), ISBN: 9780470436271

Millais, Malcolm Building Structures: From Concepts to Design
Spon Press, Taylor & Francis Group: 2005,
ISBN: 0415336236

Recommended Reading

Ching, Francis D.K. Buiding Structures Illustrated
Wiley Trade Publishing, 2009, ISBN: 9780470187852

Salvadori, Mario Why Buildings Stand Up
W. W. Norton, 2002, ISBN: 0393306763

Gordon, J.E. Structures, or Why Things Don't Fall Down
Penguin Books, 1991, ISBN: 0140136282

Notes

1. Written work, term assignments and other course related work may only be submitted by e-mail if prior permission to do so has been obtained from the course instructor.

2. It is the student's responsibility to request academic accommodations. If you are a student with a documented disability who may require academic accommodation and have not registered with the Disability Resource Centre, please contact their office at 403-220-8237 (<http://www.ucalgary.ca/drc/node/46>).

Students who have not registered with the Disability Resource Centre are not eligible for formal academic accommodation. You are also required to discuss your needs with your instructor no later than fourteen (14) days after the start of this course.

3. Plagiarism - Plagiarism involves submitting or presenting work in a course as if it were the student's own work done expressly for that particular course when, in fact, it is not. Most commonly plagiarism exists when:(a) the work submitted or presented was done, in whole or in part, by an individual other than the one submitting or presenting the work (this includes having another impersonate the student or otherwise substituting the work of another for one's own in an examination or test),(b) parts of the work are taken from another source without reference to the original author,(c) the whole work (e.g., an essay) is copied from another source, and/or,(d) a student submits or presents work in one course which has also been submitted in another course(although it may be completely original with that student) without the knowledge of or prior agreement of the instructor involved. While it is recognized that scholarly work often involves reference to the ideas, data and conclusions of other scholars, intellectual honesty requires that such references be explicitly and clearly noted. Plagiarism is an extremely serious academic offence. It is recognized that clause (d) does not prevent a graduate student incorporating work previously done by him or her in a thesis. Any suspicion of plagiarism will be reported to the Dean, and dealt with as per the regulations in the University of Calgary Graduate Calendar.

4. Information regarding the Freedom of Information and Protection of Privacy Act and how this impacts the receipt and delivery of course material (<http://www.ucalgary.ca/secretariat/privacy>)

5. Emergency Evacuation/Assembly Points (<http://www.ucalgary.ca/emergencyplan/assemblypoints>)