

University of Idaho

Department of Civil and Environmental Engineering

Syllabus for CE 444-Steel Design - Fall 2017

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Time/Location:
Class: Monday & Wednesday 12:30 – 1:20 P.M., JEB 25
Lab: Friday 12:30-2:20 pm JEB 25
Office Hours: TBA

OBJECTIVE:

The student will learn structural steel design using latest AISC specifications, including tension members, columns, beams and beam-columns, and bolted and welded connections.

- Text: *Steel Design, 6th Edition, Segui, ISBN-10: 1337094749; ISBN-13: 9781337094740*
- *AISC Steel Construction Manual, 15th ed.* (Instructions for obtaining an educational discount for this reference will be provided in class).

COURSE WEB SITE: BBLearn – class notes, homework submittals and solutions, grades.

ANALYSIS/DESIGN SOFTWARE: Software skills will be partially taught during the lab. It is expected that the student has basic knowledge from prerequisite courses.

- RISA 2D and RISA 3D, available in the computer labs or as educational/demo version.
- Mathcad
- Excel

POLICY AND GUIDELINES:

Grading:

Assignments: 15%
Class/Lab Participation & Presentations: 5%
Exams: 50%
Final Exam: 15%
Course Project: 15%

Academic Integrity/Honesty: You are bound by the university honor code. It is your responsibility to know the code and the risks of violation. See: <http://www.uidaho.edu/student-affairs/dean-of-students/student-conduct/academic-integrity>

Assignments: You may seek help from anyone. However, the final work must be your own. Homework due dates will be specified on each assignment. Late assignments will not be accepted. Students are expected to submit work that is reasonably neat, complete and well organized.

Class Participation: Students will be assigned to prepare and present example problems in class. In-class participation/discussion will also be evaluated.

Lab: The lab component may be calculation based, fieldtrips, presentations or activities.

Exams: There will be two exams during the semester and the final. All exams are comprehensive. Exams will either be in class, take-home or combination.

Suggestions for Meaningful Learning: Immediately identify weaknesses in your background and take steps to remedy them. Participate in class- *Lean In*. Review your class notes as soon as possible: Review and clarify them. Write down questions to ask in class or email me.

Disability Support Services Reasonable Accommodations Statement: Reasonable accommodations are available for students who have documented temporary or permanent disabilities. All accommodations must be approved through Disability Support Services, located in the Idaho Commons Building, Room 306, in order to notify your instructor(s) as soon as possible regarding accommodation(s) needed for the course. Contact DSS at 208-885-6307, email dss@uidaho.edu, or www.uidaho.edu/dss

CE 444 STEEL DESIGN
PRELIMINARY COURSE SYLLABUS AND TENTATIVE HOMEWORK ASSIGNMENTS

Session	Day	Date	Subject	Text Sections	Tentative Homework
1	M	8/21	Loads, Codes & Steel	Chapter 1	
2	W	8/23	ASD & LRFD	Chapter 2	
3	F	8/25	Lab 1 – Applications		
4	M	8/28	Loads and Design Concepts	Chapter 2	2.1 and 2.5
5	W	8/30	Tension Members	3.1 to 3.3	
6	F	9/01	Lab 2 - Applications		3.2.1,4,6 & 3.3.1
	M	9/04	NO CLASS – Labor Day		
7	W	9/06	Tension Members – Staggered Fasteners	3.4 to 3.5	
8	F	9/08	Lab 3 – Applications		3.3.3, 3.3.4, 3.4.1 3.4.4, 3.5.2, 3.5.4
9	M	9/11	Tension Members – Design	3.6 and 3.7	*not included in Hwk scores 2017.
10	W	9/13	Tension Members – Roof Trusses	3.8	
11	F	9/15	Lab 4 – Applications		3.6.1, 3.6.4, 3.7.2 3.7.4, 3.8.2
12	M	9/18	Compression Members – Local Stability	4.1 to 4.4	
13	W	9/20	Compression Members – Design	4.5 to 4.7	
14	F	9/22	Lab 5 – Applications	4.8	4.3.1, 4.3.3, 4.3.7 4.4.2, 4.6.2, 4.7.2, 4.7.3
15	M	9/25	Compression Members		
16	W	9/27	Compression Members		
	F	9/29	Exam No. 1		
17	M	10/02	Beams	5.1 to 5.3	
18	W	10/04	Beams – Compact Sections	5.4 and 5.5	5.2.3, 5.5.2, 5.5.5
19	F	10/06	Lab 6 – Applications		Project Assignment
20	M	10/09	Beams – Noncompact Sections	5.6 and 5.7	
21	W	10/11	Beams – Shear and Deflection	5.8 and 5.9	5-5.15, 5.6.2, 5.8.3
22	F	10/13	Lab 7 – Applications		
23	M	10/16	Beams – Design	5.10 and 5.11	
24	W	10/18	Beam-Columns	6.1 to 6.3	5.10.2,5.10.4,5.10.7
25	F	10/20	Lab 8 – Applications		
26	M	10/23	Beam-Columns – Braced vs. Unbraced Frames	6.4 to 6.8	Project Update
27	W	10/25	Beam-Column Design, Connections	6.8 7.1 to 7.3	6.2.2, 6.6.4, 6.7.2, 6.8.2, 6.8.5
28	F	10/27	Lab 9 – Applications		
29	M	10/30	Connections – Shear Strength	7.4 to 7.6	
30	W	11/01	Connections – Design	7.7 to 7.9	7.4.1, 7.4.4, 7.6.2, 7.6.5
	F	11/03	Exam No. 2		
31	M	11/06	Connections – Welded Connections	7.10 to 7.11	7.7.3, 7.8.2, 7.9.2, 7.9.5
32	W	11/08	Eccentric Bolted Connections	8.1 and 8.2	Project Update
33	F	11/10	Lab 10 – Applications Lochsa, Cold-Formed Steel		7.11-3, 7.11-10
34	M	11/13	Eccentric Welded Connections	8.3 and 8.4	8.2.1, 8.2.4, 8.2.6
35	W	11/15	Composite Members	9.1 to 9.4	8.3.3, 8.3.5, 8.3.7
36	F	11/17	Lab 11 – Applications		
	M	11/20	Fall Recess		
	W	11/22	Fall Recess		

	F	11/24	Fall Recess		
37	M	11/27	Composite Members	9.5 to 9.7	
38	W	11/29	Composite Members		9.2.2, 9.3.2, 9.4.1, 9.5.3, 9.6.1, 9.7.3
39	F	12/01	Lab 12 – Applications		
40	M	12/04	Anchor Design	5.13	Project Due
41	W	12/06	Anchor Design	5.13	
42	F	12/08	Lab 13 - Applications		
	M	12/11	Final Exam Week		
	T	12/12		12:30-2:30 P.M.	Final Exam
	F	12/15			