CNET3440 Steel Structures
(3 credit hours: 3+0)

Instructor: Zhenhua Huang
Office: Discovery Park F115M
Office Hours: (W) 9:00am-12:00pm
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Spring 2021
Time: (M,W) 2:30 - 3:50 pm

Meeting Place: Remote

Course Description:

This course offers a review of the principles, analysis and methodologies for conceptual and detailed design of steel structures and emphasizes on the role of mechanics in modern structural engineering design specifications with a focus on load and resistance factor design. Topics include behavior and design of hot-rolled steel: members, connections, and advanced analysis techniques.

Course Objectives:

By the end of the course, you be able to:

- Understand the concepts of load and resistance factor design (LRFD) for steel structures.
- Know how to prepare calculations to support steel design.
- Understand the mathematical concepts for choosing structural steel members.
- Know how to calculate the required sizes for structural steel columns, beams, and tension members.
- Know how to calculate weld and bolt sizes for steel connections.

Course Outcomes:

- ABET #2: an ability to design solutions for well-defined technical problems and assist with engineering design of systems, components, or processes appropriate to the discipline

Course Requirements:

Attendance – Attendance is mandatory. More than 6 absences will be an "F" grade. Lectures, projects, and class discussions will contain vital information needed to do well on the exams.

Required text Steel Design (6th)
William T. Segui
Cengage Learning; ISBN: 978-1-337-09474-0

Exams: There will be THREE exams (this includes 2 quizzes and a final exam), each quiz worth 20 points. Exams will be based on text readings, handouts, class exercises, videos, and class lectures and discussions. Students are responsible for all text material, regardless of whether we review the text material in class or not.

Missed Exams: You will be allowed to make up a missed exam only if you have a documented university excused absence. If you know in advance that you will miss an exam, you MUST contact me before the scheduled exam. Make-up exams will not contain the same questions.

Assignments: In addition to the readings from the text, there will be writing assignments. No late assignments will be accepted. No emailed assignments will be accepted.

Grading Policy:

Grades will be based on:

Attendance, Participation, and Professionalism @ 10	=	10 pts
Homework @ 10	=	10 pts
2 quizzes @ 20	=	40 pts
Group project @ 10	=	10 pts

Final @ 30 = 30 pts

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100 pts

Extra credit: There is none.

Grade Distribution:
90 - 100 = A
80 - 89 = B
70 - 79 = C
60 - 69 = D
Below 60 = F

Disabilities Accommodation:

The University of North Texas complies with Section 504 of the 1973 Rehabilitation Act and with the Americans with Disabilities Act of 1990. The University of North Texas provides academic adjustments and auxiliary aids to individuals with disabilities, as defined under the law. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring accommodation, please see the instructor and/or contact the Office of Disability Accommodation at 940-565-4323 during the first week of class.

Course Schedule:

This Class meets Monday, Wednesday	TOPIC	BOOK CHAPTER
Class Week 1	Introduction	1
Class Week 2	Concepts	2
Class Week 3	Tension Members	3
Class Week 4	Tension Members/Compression Members	3,4
Class Week 5	Compression Members	4
Class Week 6	Quiz 1	
Class Week 7	Beams	5
Class Week 8	Beams	5
Class Week 9	Beams	5
Class Week 10	Beam-Columns	6
Class Week 11	Quiz 2	
Class Week 12	Beam-Columns	6
Class Week 13	Simple Connections	7
Class Week 14	Eccentric Connections	8
Class Week 15	Project Presentation	
Class Week 16	Final Exam	