

## CNET3440 Steel Structures

Instructor: Zhenhua Huang  
Office: Discovery Park F115M  
Office Hours: (M) 1:00-4:00pm  
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Spring 2016  
Time: (M,W) 4:00 - 5:20 pm

Meeting Place: NTDP B192

### 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: connections, members, frames 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 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 (5<sup>th</sup>)

William T. Segui  
Cengage Learning; ISBN: 978-1-111-57600-4

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 during the first week after the 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 and may contain only essay and short answer 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.

Grades will be based on:

Class Attendance @ 5	=	5 pts
Class Participation @ 5	=	5 pts
Homework @ 10	=	10 pts
2 quizzes @ 20	=	40 pts
Group project @ 10	=	10 pts
Final @ 30	=	30 pts
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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.

### **Additional Policies and Procedures:**

Tardiness: If you arrive late, please enter quietly and sit down. Do not walk in front of speakers or disrupt the class in any other way.

Cell Phones: Please remember to turn off phones prior to class.

Extra Help: PLEASE DO NOT WAIT UNTIL THE LAST MINUTE. If you are having trouble with this class, please come by my office during office hours. I am also available by email at [zhenhua.huang@unt.edu](mailto:zhenhua.huang@unt.edu).

This Class meets Monday, Wednesday and Friday	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	