MSET5800 Studies in Engineering Technology
Design methods development for cold-formed steel structures

Instructor: Dr. Cheng Yu  Fall 2015
Office: Discovery Park F115F  Time: (T, Th) 4:00 -5:20 pm
Office Hours: (T, Th) 2:00pm-3:00pm  Classroom: NTDP F119
Phone: 940-891-6891
Email: cheng.yu@unt.edu

Course Description:
Organized classes specifically designed to accommodate the needs of students and the demands of program development that are not met by regular offerings. Short courses and workshops on specific topics, organized on a limited-offering basis, to be repeated only upon demand. May be repeated for credit. Prerequisite(s): Major professor and department consent.

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

- Understand the behavior and stability of thin-walled cold-formed steel structures.
- Understand the procedure to develop design provisions for cold-formed steel structures
- Understand the behavior and design of cold-formed steel members under shear
- Understand the behavior and design of cold-formed steel members under compression
- Understand the behavior and design of cold-formed steel members under tension
- Understand the screw connection design in cold-formed steel structures
- Apply the AISI and AISC design method for steel structures

Course Requirements:
Attendance – Attendance is mandatory. Lectures, projects, and class discussions will contain vital information needed to do well on the exams.

Required text None
Supporting materials will be provided by the instructor.

Exams: There will be one exam. Exam will be based on text readings, handouts, class exercises, homework, 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 missed exams 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 may not contain the same.
Assignments: In addition to the readings from the text, there will be writing assignments. No late assignments will be accepted.

Grades will be based on:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework and inclass assignments</td>
<td>50 pts</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>20 pts</td>
</tr>
<tr>
<td>Project 1</td>
<td>10 pts</td>
</tr>
<tr>
<td>Project 2</td>
<td>20 pts</td>
</tr>
</tbody>
</table>

100 pts

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 through email cheng.yu@unt.edu

Course Outline:
This course outline is tentative, and may be subjected to changes.

<table>
<thead>
<tr>
<th>Week</th>
<th>TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1-3</td>
<td>Elastic buckling and finite element modeling</td>
</tr>
<tr>
<td>Week 3-5</td>
<td>Behavior and design of steel members under shear</td>
</tr>
<tr>
<td>Week 6-9</td>
<td>Behavior and design of steel members under compression</td>
</tr>
<tr>
<td>Week 8</td>
<td>Midterm exam</td>
</tr>
<tr>
<td>Week 10-14</td>
<td>Behavior and design of steel members in tension; screw connections in cold-formed steel structures</td>
</tr>
<tr>
<td>Week 15</td>
<td>Review, Final Project</td>
</tr>
<tr>
<td>Week 16</td>
<td>Final Project Presentation</td>
</tr>
</tbody>
</table>