CE 562 – Steel Design  
Spring Semester, 2010

**Instructor:**

Caroline R. Bennett, Ph.D.  
2155 Learned Hall  
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Office Hours: Open door policy  
E-Mail: crb@ku.edu  
Web Address: [http://www.people.ku.edu/~crb/CE562.shtml](http://www.people.ku.edu/~crb/CE562.shtml)

**Graduate Teaching Assistant:**  
Amanda Hartman, 1163B Learned Hall  
arch-asz@ku.edu  
Office Hours: MWF 10:00-11:00

**Class Hours and Location:**

<table>
<thead>
<tr>
<th>Class Type</th>
<th>Days</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture</td>
<td>T,R</td>
<td>8:00 a.m. – 9:15a.m.</td>
<td>3151 Learned Hall</td>
</tr>
<tr>
<td>Lab</td>
<td>R</td>
<td>2:30 p.m – 5:15 p.m.</td>
<td>3151 Learned Hall</td>
</tr>
</tbody>
</table>

**Required Textbook:**


**Required Specification:**


**Grading:**

<table>
<thead>
<tr>
<th>Percentage of Final Grade</th>
<th>Scheduled Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignments / Quizzes</td>
<td>15% Due as indicated at time of distribution</td>
</tr>
<tr>
<td>Lab Exercises</td>
<td>10% Due as indicated at time of distribution</td>
</tr>
<tr>
<td>Exam 1</td>
<td>25% Tentatively scheduled for Thursday, 03/04/10 (lab)</td>
</tr>
<tr>
<td>Exam 2</td>
<td>25% Tentatively scheduled for Thursday, 04/29/10 (lab)</td>
</tr>
<tr>
<td>Final Project</td>
<td>25% Thursday, 05/06/10 (lab)</td>
</tr>
</tbody>
</table>

Your grade will be based upon percentages described above. A straight grading scale will be used, with a 90% or greater being an “A”, an 80%-89% being a “B”, etc.

Grades will not be curved on an individual basis. If at the end of the quarter the aggregate class grade is significantly lower than expected by the instructor, all of the class grades may be shifted by the same amount.
Tentative Course Schedule:

<table>
<thead>
<tr>
<th>Lesson Plan</th>
<th>Topic</th>
<th>Tentative Dates of Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Structural Steel as a Building Material</td>
<td>Weeks 1 &amp; 2</td>
</tr>
<tr>
<td>2</td>
<td>Design Philosophies</td>
<td>Weeks 2 &amp; 3</td>
</tr>
<tr>
<td>3</td>
<td>Fundamentals of Compression - Part 1</td>
<td>Weeks 3, 4, and 5</td>
</tr>
<tr>
<td>4</td>
<td>Fundamentals of Compression - Part 2</td>
<td>Weeks 4 and 5</td>
</tr>
<tr>
<td>5</td>
<td>Advanced Compression Members</td>
<td>Weeks 6 &amp; 7</td>
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<tr>
<td>6</td>
<td>Flexural Members - Part 1 (CLS)</td>
<td>Week 8</td>
</tr>
<tr>
<td>7</td>
<td>Flexural Members - Part 2 (non-CLS)</td>
<td>Week 9</td>
</tr>
<tr>
<td>8</td>
<td>Flexural Members - Part 3 (Shear &amp; Design)</td>
<td>Week 10</td>
</tr>
<tr>
<td>9</td>
<td>Beam-Columns</td>
<td>Weeks 11 and 12</td>
</tr>
<tr>
<td>10</td>
<td>Tension Members</td>
<td>Week 13</td>
</tr>
<tr>
<td>11</td>
<td>Bolted Connection Fundamentals</td>
<td>Weeks 14 and 15</td>
</tr>
<tr>
<td>12</td>
<td>Welded Connection Fundamentals</td>
<td>Week 16</td>
</tr>
</tbody>
</table>

Class Guidelines

1. **Prerequisites:** All students are expected to have a working knowledge of statics, strength of materials, structural analysis, calculus, differential equations, and physics. For exams, students should be able to do the following:
   a. Solve ANY statically determinate problem,
   b. Solve simple indeterminate problems,
   c. Calculate normal, bending, and shear stresses and strains,
   d. Draw shear and moment diagrams,
   e. Use Mohr’s circle,
   f. Find axial deformations, and
   g. Find deflections of beams using any of the following techniques:
      i. Direct integration
      ii. Conjugate beam
      iii. Virtual work
      iv. Castigliano’s 2nd Theorem (method of least work)

2. **Grade Changes:** If an error has been made in calculating one of your grades (i.e., the addition of points was performed incorrectly), it will be fixed. However, grades will not be changed for any other reason. Please contact me within 5 days of the return of the materials. After that, I will not change any grades. Retain all your class materials.

3. **Attendance:** No points will be assigned for attendance. I will take attendance from time to time, and this may help my decision in borderline grades. THE INSTRUCTOR WILL NOT MAKE HER NOTES AVAILABLE FOR PHOTOCOPYING OR TRANSPORURE UNDER ANY CIRCUMSTANCES.

4. **Quizzes:** Quizzes may be administered periodically to ensure that we are on-track. I may give unannounced quizzes throughout the semester. If you are not present for any quiz (announced or unannounced) for any reason, under no circumstances will you be able to make up the grade. Each quiz grade will be included in the aggregate homework score on a point basis. Points possible for various quizzes may vary, and will be announced at the time of quiz distribution.
5. **Assigned Reading:** Assigned reading will be provided on each lesson plan to augment our lecture discussions.

6. **Personal Electronic Devices:** Cell phones, iPods, PDAs, beeping calculators are quite distracting in a classroom setting. I will turn off my cell phone, etc., before coming into class, and I ask you to do the same.

7. **Email:** I encourage you to contact me via email concerning topics such as homework questions. However, critical issues should not be conducted over email. I will make every effort to reply to emails within 24 hours of receipt, and most times, sooner.

8. **Punctuality:** *Please make every effort to be on time.* I understand that being late may happen on the rare occasion, and if it does, please enter quietly through the back door and sit in the rear of the classroom.

### Homework Policy

1. **Presentation of Work:** **THIS IS IMPORTANT!!!** As an engineer, you are expected to present work that is neat, clear, and readily understandable. All homework is to be submitted on engineering paper.
   - Write on the front side of engineering paper only, do not write in the margins, and always use a pencil.
   - Label each page with your name, date, assignment number, problem number, and page number (i.e., page 2 / 10).
   - I do not require the problem statements to be written out with the problems, but it may be useful to you as a future reference to do so.
   - Any mistakes should be erased completely and reworked. Do not scratch work out. Keep in mind that homework calculations are not field notes, therefore, it is not necessary that you show your mistakes.
   - Figures should be drawn with a straight edge or french curve – do NOT freehand figures.
   - Always start a new problem on a new page.
   - Always write on the front of engineering paper – the back is not meant to be written upon. (The back is the side with the dark lines.)
   - Ensure that your written work logically progresses in an orderly progression down the page. Please do not scrunch work together such that it is unreadable or sloppy. A complete stranger and non-engineer should be able to decipher your work and understand the logical progression of your solution.
   - Neatly box in or underline your answers, and provide a summary at the end of the problem.
   - Please staple your work in the upper left hand corner before submitting it.
   - Please do not fold your homework submissions. I find that this makes the pencil somewhat smudgey, and I am just *that* picky. 😊

   If your homework does not adhere to these guidelines, you run a very high risk of having points deducted at my discretion, or your homework being returned un-graded.

2. **Office Hours:** I will hold office hours under an open-door policy as noted on the first page. This means, simply, that if my door is open, I am available. However, if my door is closed, it generally means that I am
not there, am on the phone, or am unavailable because of another commitment. I will absolutely make every effort to avail myself as much as possible.

3. **Late Policy:** All homework is due at the beginning of class. Any homework that is submitted after I have collected the homework may be considered one day late. Homework will be accepted one day late (up to 24 hours after the beginning of the class in which the assignment was due) for a grade reduction of 25%. If the assignment is two days late (between 24 and 48 hours after the beginning of the class in which the assignment was due), the reduction will be 50%. Work will not be accepted after two days (after 48 hours after the beginning of the class in which the assignment was due). Late work must be personally handed to me or placed in my mailbox with a time stamp from a CEAE administrative assistant. If for some reason you cannot be on campus, scan it in and email it to me. I will use the “received” time on my email program as the time stamp. If the email/attachment does not come through (or it is illegible when I open it) the aforementioned late penalties will continue to apply. Please do not slide any work under my office door; it will not be graded, and will likely be trampled to death.

4. **Cheating:** You are allowed and encouraged to work together on homework problems. There is a very clear distinction, however, between working together and copying work (from a friend or any other source). *Copied* work is unacceptable, and a grade of zero will be assigned for any such submissions. If it happens more than once, the student(s) will be assigned a grade of “F” for the semester, and the occurrence will be reported.

### Examination / Quiz Policy

All quizzes will be closed-note, closed-book unless otherwise noted by the instructor. The two midterm exams will be open book (AISC Manual and Segui text only) and open note.

1. **Cheating:** Cheating will be dealt with severely. If it discovered that any student has solicited any help - direct or indirect - and that all work is not original and their own, that student(s) will receive a failing grade for the course and disciplinary action will be taken through the college’s academic affairs committee.

2. **Electronic Devices:** Cell phones, PDAs, laptops, walkmans, recorded media (MP3 player, CD player, etc.), head phones, or any calculator with a keyboard or wireless features will not be allowed during any quiz or examination. Use of any such device may result in the early collection of the test and a subsequent grade of zero. I reserve the right to examine your calculator during an examination.

3. **Makeup Exams:** In general, makeup exams are given only when the student misses an exam due to extreme emergency. The instructor is the sole judge of what constitutes an extreme emergency and the validity of any excuse. Therefore, you should make every effort to be in attendance on examination dates. Students missing an exam without a valid excuse will receive a grade of “0” for that exam.

4. **Class Cancellations:** In the case that classes are cancelled by the University on the day that an exam is scheduled, we will have our exam the following regularly scheduled class period.