CIVE 466 – Design and Behavior of Steel Structures
Spring 2009
MWF 12:00-12:50pm, Engineering 120

Instructor:
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Course Objectives: To become familiar with steel as a structural material and to learn techniques for the design of basic steel members and connections using the AISC Steel Construction Manual.

Topics:
- Introduction to Steel and Design Philosophies
- Loads
- Tension Members
- Compression Members
- Flexural Members
- Beam-Columns
- Connections

Textbook:

An attached handout explains how to purchase your manual at the student discount price. Although the only required text for this class in the Steel Construction Manual I highly recommend that you also purchase a textbook. There are several books that are compatible with the most recent edition of the steel manual.

If you really like structures and are strongly considering graduate school I recommend:
This book has a lot of detail and goes more in depth than an undergraduate course would. Many consider it to be the steel textbook.

If you like structures and want a practical book without quite as much detail I recommend:
This book is brand new and I have not read it in detail, but it should follow our course pretty closely and it seems to have a lot of practical information that should be useful in the future.

If you aren’t sure if you like structures and are looking for a less expensive book:
These books have both been out for a little while and so used copies may be available, or students from past years may have a copy you can borrow. Neither one has quite as much detail. Segui has more thorough examples, Geschwinder seems a little more practical.
Prerequisites: CIVE 367

Assignments and Grading:

Daily Problems (10%)  
Most days I will assign a few problems for you to practice the material we covered in class that day. These problems will generally be quite simple and will focus on particular equations or design of a single element. Many days I will help you get started on these problems toward the end of class. I encourage you to work the problems before the next class session, this will help you stay caught up and will help you get ready for the next class. The assignments from the previous week will be due each Wednesday by 5:00 pm. NO LATE ASSIGNMENTS.

Case Study Building Assignments (13%)  
In order to practice applying the basic principles covered in the daily assignments to a practical design situation we will also have longer term assignments based on a Case Study Building. These assignments should be completed in groups of 2. These assignments will be assigned as we complete topics in class. For example, when we finish talking about columns in class I will assign you the design of the columns in the structure. An important part of these assignments will be determining the loads on the elements you are designing. Remember without the loads it is impossible to pick an appropriate shape! These assignments will also be due by 5:00pm on the due date, and no late assignments will be accepted.

Class Presentation (2%)  
I would like to start each class session with one or two 3 minute presentations by students about a steel topic. I expect students to pick an article from a monthly magazine published by AISC called Modern Steel Construction. Past issues can be accessed online at http://www.modernsteel.com/, or I have a number of past issues in my office that you can borrow. The objective of this assignment is to give the class some exposure to topics that we won’t discuss formally in class, but also to give students a chance to practice public speaking in a low pressure situation. If you complete this assignment you will get 100% of the points. The only requirement I have is that you cannot read from notecards! You can use the document camera or a laptop to show pictures from your article, but I expect you to know the topic thoroughly and be able to speak for about 3 minutes without reading.

Class Participation/Behavior (5%)  
I expect all students to bring their steel manual to class everyday and to stay on task working on the daily problems during those class periods when I allow time for working. One percentage point will be subtracted for each time students forget their manual or significantly stray from topic during class. I also expect students to be respectful when I am teaching. One percentage point will be subtracted for each occurrence of disrespectful behavior such as (but not limited to) students holding private conversations while I am talking or disruptive entrances and exits from the classroom. Students who continue to display disruptive behavior after they have lost all 5% will be referred to the Office of Conflict Resolution and Student Conduct Services.

Exams (70%)  
There will be two midterms (20% each) in this class and a final (30%). All tests will be cumulative with an emphasis on more recent material. Midterms will be announced in class at least one week prior to the test date. The final exam will be given at 7:00 am on May 11th as scheduled by the university. Make-up exams will be given only in extraordinary, documented circumstances.
Grading Scale: Assignment of final grades will not be stricter than the percentages shown below. I will not use +/- grading.

A  90 – 100%
B  80 – 89%
C  70 – 79%
D  60 – 69%
F below 60%

Academic Integrity:
CSU standards regarding academic integrity can be found in the Policies and Guiding Principles section of the General Catalog, online at http://catalog.colostate.edu/front/policies.aspx. Here is the first paragraph of this section from the catalog:

The foundation of a university is truth and knowledge, each of which relies in a fundamental manner upon academic integrity and is diminished significantly by academic dishonesty. Academic integrity is conceptualized as doing and taking credit for one’s own work. A pervasive attitude promoting academic integrity enhances the sense of community and adds value to the educational process. All within the University are responsible for and affected by the cooperative commitment to academic integrity.

University policies to deal with academic dishonesty will be followed for students found cheating.

Special Needs:
If you have any special needs please come visit me during office hours so that we can discuss how I can help you be successful in this course.