Northeastern University

Department of Civil and Environmental Engineering

Instructor's Assessment
CIVE 3425 Steel Design

Semester / Year: Spring / 2013 **Instructor: Myers Date:** 05/13/2013

Expectations regarding this course assessment:

a. Before the start of the course, review the most recent instructor assessment for recommendations on how to improve the course.
b. Grade summaries will be based on up to three exams.
c. *Questions to be asked on the in-class evaluation:* Listed in item 3 below.
d. This assessment form is based on the set of topics and learning outcomes listed in the course syllabus. Do not change this part of the syllabus without action from the discipline group. If there is a change, notify the Undergraduate Studies Committee so that this form can be modified.
e. Complete the form and save it as a Word document with filename like this: IAssess_3425 _2013_Fall

1. What course improvements did you make? How successful were they? Relate them to recommendations made in previous course assessments. *Expand the table as necessary.*

1.	I improved pacing of lectures, positioning of my body, my handwriting and blackboard management. The number of survey comments I received regarding this issue dropped substantially from the previous year so I'd say the changes were successful.
2.	I better integrated the processes of structural analysis and design by creating several assignments and extra credit opportunities that required a structural analysis. Several students commented that they thought these assignments were valuable.
3.	I included more explicit instruction on efficient use of the Steel Construction Manual. Several students commented that they thought there assignments were valuable.
4.	I tried to make the organization of the course more explicit. I think this was successful as I did not receive any feedback asking for a better course outline this year, whereas last year, several students requested a better course outline.

2. Your response to student comments and/or TRACE evaluation: *Respond to serious criticisms and suggestions. Expand table as necessary.*

	Student Comment	Your Comment(s)
1.	The intensity of the course load is too much. A weekly review session would help. Too much information is crammed into the semester.	While I still received a few comments on this issue, I think this was much less of an issue than last year. I want the class to be challenging so I'm glad that some students describe it as intense. Several students suggested adding recitation and I think this would be a good idea.
2.	Too much time on tension members and compression members. Not enough time on flexural members and combined members.	I agree with this comment and will work to improve upon it next year. I tried to re-allocate the timing of the course to provide more time for beam-columns, but, just like last year, found that I had to rush the material at the end of the semester.
3.	Teach less theory and more practical examples. Fewer derivations. Remove conceptual parts from exams.	I disagree with these comments. There were only a handful of students who wrote this comment and I don't think it is representative of the class. I think that in any design class there will be some students who want it taught from a practical perspective and others who want it taught from a theoretical perspective. I tried to balance these perspectives but probably spent more time on the theory than is typical for an UG steel design class. In my opinion, I think it is beneficial to spend a lot of lecture time on the theory behind the code so that detailed implementation of the code can be self-taught after the students learn the theory.
4.	Handwriting too small and hard to follow	This is still an area of improvement for me. I think I showed some improvement in that less people made this comment this year compared to last year.
5.	The numerous variables are confusing. A list of all variables would help.	I agree and will try to develop this list of variables for next year.
6.	Midterm was graded more harshly than the HWs and caught some students by surprise. Another midterm would be beneficial.	I'm torn on this issue. I don't want to take the class time for another midterm but I understand their point that having 80% of the class spread over two exams is tough. Perhaps I can include some sort of strictly graded weekly quiz or homework?

3. Student questionnaire summary

4. Grade Summary

Exam 1 question #	Topic	Average score (0 to 100)	% students with adequate achievement	Comment on any item with poor achievement
1.1	Short Answer	53%	74%	This was a series of conceptual questions that covered a variety of topics. It was intentionally designed to challenging.
1.2	Tension Member Design	97%	100%	
1.3	Compression Member Design	75%	85%	
1.4	Load Combinations	63%	82%	This question was intentionally designed to be challenging.

Exam 2 question #	Topic	Average score (0 to 100)	% students with adequate achievement	Comment on any item with poor achievement
2.1	Short Answer	74%	95%	This was a series of conceptual questions that covered a variety of topics. It was intentionally designed to challenging.
2.2	Beam Design	91%	90%	
2.3	Beam-Column Design	77%	80%	
2.4	2nd Order Moment Approximation and Load Combos	71%	74%	This question was intentionally designed to be challenging.

Exam 3 question #	Topic	Average score (0 to 100)	% students with adequate achievement	Comment on any item with poor achievement
3.1				
3.2				
3.3				
3.4				

5. Here are the topics listed on your syllabus. Based on your grade summaries, report the fraction of students that showed ability to apply knowledge and to identify, formulate, and solve problems. In the column "Basis for assessment" report the particular item(s) in the grade summary that support this assessment; or if the topic is not covered in the grade summary, state the basis of your assessment.

Topic	Percentage of students showing ability to apply knowledge and solve problems	Basis for assessment	Comments
1. Design for tension members	100%	Grade Summary #1.1 and #1.3	Also assessed on homework.
2. Design for compression members	90%	Grade Summary #1.1, #1.3 and #2.1	Also assessed on homework.
3. Design for members in bending	95%	Grade Summary #2.1 and #2.2	Also assessed on homework.
4. Design for members with combinations of loadings	85%	Grade Summary #2.3 and #2.4	Also assessed on homework.
5. Design of simple connections	N/A	N/A	This was covered during the last lecture but was not assessed in homeworks or exams.
6. Design of braced frames and rigid frames (introduction)	85%	Homework assignments #5 and #7	

6. Assessment of Program-Level Outcomes not Covered in Topic Assessment

What percentage of students achieved the following learning outcomes?

Learning Outcome	Percentage achieving	Basis for this rating	Comments?
an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice	90%	Grading of exams and homeworks; Discussion with students during office hours and lectures	I think that the students received an appropriate balance of theory and design examples to be able to contribute immediately to engineering practice.

7. Recommendations for improving this course. Expand the table as needed.

1.	Improve pacing of lectures, handwriting and blackboard management. Less time on tension members leaving more time for beam-columns and simple connections. This is an important point. Many students mentioned it.
2.	Incorporate more integration of analysis and design with extended homeworks (aka learning modules

3.	Look into adding a weekly recitation, perhaps given by a TA
4.	Develop a list of variables for the entire course organized by topic.
5.	Think about grading policies so that the emphasis is not so overwhelmingly focused on the exams. Provide more opportunities for feedback.
6.	Consider devoting half of a lecture to