**Northeastern University**

**Department of Civil and Environmental Engineering**

Instructor’s Assessment

CIVE 2221 Statics and Strength of Materials

**Semester / Year:** Spring / 2013 **Instructor: Sary Malak Date:** 05/21/2013

Expectations regarding this course assessment:

1. Before the start of the course, review the most recent instructor assessment for recommendations on how to improve the course.
2. Grade summaries will be based on up to three exams.
3. *Questions to be asked on the in-class evaluation:*  None.
4. 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.
5. Complete the form and save it as a Word document with filename like this: IAssess\_2221 \_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 introduced the students to real project problems related to statics and showed them slides on some of the projects are worked on.  |
| 2. | I focused more on shear and bending moment diagrams, frame and truss problems as an introduction to Structures I. |
| 3. | I have introduced unexpected drop quizzes that will keep students up to date in relation to the materials and to keep them prepared as we go along with the course work. |

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

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| --- | --- | --- |
|  | **Student Comment** | **Your Comment(s)** |
| 1. | None | I did not get any negative feedbacks that required any suggestions. I am pleased with the student’s comments and am very glad that they benefited from the course. I am happy that I related the message to them and got them interested in Structural Engineering.  |

**3. Student questionnaire summary**

*Omit – does not apply.*

**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 | 2D Beam Problem | 85% |  90% |  |
| 1.2 | 3D Resultant Problem | 80% |  85% | Students had difficulty with 3D problems since it related to visual interpretation fot eh problem. |
| 1.3 | 3D Equilibrium Problem | 70% |  70% | Students had difficulty with 3D problems since it related to vectors and mathematical evaluations. |

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| **Exam 2 question #** | **Topic** | **Average score** (0 to 100) | **% students with adequate achievement** | **Comment on any item with poor achievement** |
| 2.1 | 2D Truss Problem |  95% |  90% | This topic was mastered by the students |
| 2.2 | 2D Frame Problem |  85% |  90% | Some student had issues with free body diagram concepts of frames and differentiation between frame and truss members. |
| 2.3 | Sectional Properties (Centroid/Moment of Inertia) Problem |  95% |  90% | This topic was mastered by the students |

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| --- | --- | --- | --- | --- |
| **Exam 3 question #** | **Topic** | **Average score** (0 to 100) | **% students with adequate achievement** | **Comment on any item with poor achievement** |
| 3.1 | Truss Problem |  95% |  |  |
| 3.2 | Frame Problem |  90% |  | Great improvement in understanding the related issue above. |
| 3.3 | Shear and Bending Moment Diagram Problem, Bending Stresses and Shear Stresses |  90% |  | Mastered by the students |
| 3.4 | Axial Deformation and Axial Stress Problem. | 75% |  | Difficulty in understanding the relative deformation concept. |

**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. Learn how to combine forces and compute the resultants of various types of force systems.
 | 85% | 2D problems were fully understood by the students  | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |
| 1. Develop the ability to draw free-body diagrams.
 | 85% | Students improved to learn the concept since it was focused on excessively during the course. | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |
| 1. Study rigid bodies in static equilibrium. Be able to identify a stable system of supports and learn to compute reactions using the equations of static equilibrium.
 | 75% | 3D problems had some issues with vector mechanics and interpretation of problems in relation to vector mechanics. | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |
| 1. Be able to classify trusses and other simple structures as stable or unstable, and if stable, as determinate or indeterminate.
 | 85% | Students understood the concepts and were capable of applying them accordingly. | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |
| 1. Be able to compute the internal forces and the resulting stresses they cause in simple stable and determinate structures and draw shear and bending moment diagrams.
 | 90% | Students were very interested in the topic and very willing to solve problems. Real actual topic problems. | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |
| 1. Be able to compute certain properties of areas and masses (including centroids and moments of inertia).
 | 90% | The equations were simple and easy to use by students. | None (Satisfied with student’s ability to improve , learn and grasp the important information required in this course) |

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

*Omit – does not apply.*

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

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| --- | --- |
| 1. | I would like to introduce more vector mechanics especially in 3D problems. |
| 2. | I would like to give the students a real problem project as part of the syllabus to encourage them to meet deadlines and to learn the actual aspects of the industry. |
| 3. | I would also like to take the students to the lab to show them some loading tests and give them a feel of what statics and loads on structures are about especially when we get into the mechanics part of the course. |