ARCE 302: STRUCTURAL ANALYSIS

Prerequisite: ARCE 223, 227
Co-requisite: ARCE 352

Office: Building 21, Room 219C, Phone: 756-1343
Office Hours: M 8-9, W 11-12, R 8-10, F 2-3 and by appointment

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Textbook: Required: Lecture Notes by instructor

Lectures: MTWR 2-3

Grading: Grade will be the higher calculated from the following two schemes:

<table>
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<tr>
<th>Scheme</th>
<th>Homework</th>
<th>Quizzes and Midterm Exam</th>
<th>Final</th>
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<tbody>
<tr>
<td>10%</td>
<td>55%</td>
<td>35%</td>
<td>10%</td>
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The grade received will be the higher calculated from the two schemes. All late homework assignments will receive a 50% markdown for the first week after it is due. No credit will be given after one week. No make-up quizzes and exams except for documented medical or family emergencies.

Learning Outcomes

- Ability to calculate displacements and rotations in statically determinate structures using principle of virtual forces.
- Ability to calculate member actions (axial, shear, bending) in statically indeterminate structures using the force method.
- Ability to calculate member actions (axial, shear, bending) in statically indeterminate structures using the slope-deflection and moment distribution methods.
- Ability to distinguish between different methods and judge when it is appropriate to use each of these methods.
- Ability to determine approximate actions in statically indeterminate building frames.
- Ability to draw influence lines for statically determinate and indeterminate structures and use influence lines to specify critical loading combinations.

This year presents some unique budgetary challenges for the University and the College. Due to inadequate funding, the faculty are on furlough for the year where they are required to take two days per month off and receive a 9.23% pay cut. As a result, the faculty are encouraged to find a commensurate reduction in workload. In response to this situation, the number of lessons in this course will be reduced by 10% resulting in four furlough drops where we will not attend scheduled class. These are tentatively scheduled for Wednesday, September 30th, Tuesday, November 10th, Tuesday, November 24th and Wednesday, December 2nd. The topic that will be dropped from the course is the slope deflection method for sway structures. We do cover the slope deflection method for non-sway structures.