ARCE 502: NONLINEAR STRUCTURAL BEHAVIOR I

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Office Hours: M 8-9, W 11-12, R 8-10, F 2-3 and by appointment
E-mail: aneuenho@calpoly.edu
Textbook: Handouts by instructors
Lectures: MWF 12-1
Grading: Grade will be the higher calculated from the following two schemes:

- 20% Homework
- 30% Quizzes and Midterm Exam
- 50% Final

Learning Outcomes

- Understand and apply the principles of upper and lower bound structural analysis methods and analyze the results from such studies.
- Understand the elastic-plastic behavior of trusses, beams, and frames and evaluate analysis results which incorporate these types of elements.
- Understand and predict frame collapse mechanisms.
- Formulate the nonlinear inelastic moment-curvature relationships for steel and reinforced concrete cross-sections. Understand, analyze, and apply the factors affecting plastic moments.
- Understand, analyze, and assess the inelastic buckling of columns and the design curves for steel columns.
- Understand and apply the behavior of elastic beam-columns with lateral loads and end moments in order to create an analysis that models this behavior.
- Understand, apply, and assess the second-order elastic behavior of frame structures

Plagiarism/Cheating

Plagiarism in any form is inappropriate and unprofessional and will not be tolerated. Students will not copy other students work and will keep their eyes only on their own paper during quizzes and examinations. Students failing to abide by these rules will be subject to the disciplinary procedures of the university. Cheating/plagiarism will result in an automatic failure in the course and a permanent notation that you cheated on your university records.

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 three furlough drops where we will not attend scheduled class. These are tentatively scheduled for Wednesday, September 30th, Friday, October 16 and Friday, October 30.