

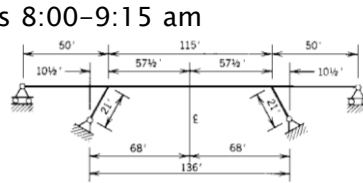
Course Offering Fall 2017

Structural Design I

Structural engineering for non-structural engineering



Time: Tuesdays and Thursdays 8:00–9:15 am
Location: CENT-1030
Course/CRN: CE410 - 001 (54714)



Tentative Topics

- Design Principles, Material Properties and Behavior
- Loads, Failure types. Limit States
- Structural Codes
- Beams, Columns, Slabs, Connections, and Foundations
- Reinforced Concrete Design and Steel Design
- Other Structural Engineering Materials: Timber, Masonry
- Design and 3D print structural systems

Vision:

Develop structural engineers who understand the fundamental behavior of structural elements, connections and systems, and can apply this understanding to analysis, design, investigation, and assessment. The main materials studied in this course are reinforced concrete and steel but other structural materials will be covered such as timber structures. A high level view of structural engineering design will be provided with multiple industry examples and hand on design assignments. At least three design projects are expected throughout the semester. The course will include at least two field trips. This course is offered for non-structural engineers, those interested without structural engineering background are encourage to contact the instructor to discuss the contents of the course.

Objectives:

This course will enable students to:

1. Understand the principles and procedures for designing structural systems common in civil engineering, with an emphasis to buildings and bridges.
2. Comprehend and apply the theoretical and experimental background related to the behavior and performance of structural elements, connections, and systems.
3. Design structural elements, connections, and system using standard codes, manuals, and specifications.
4. Comprehend the fundamental decisions and components involved in the structural performance of systems by understanding their fundamental design and behavior.
5. Develop and ability to solve structural design challenges in close-to-real design projects that will be assigned during the semester.

Faculty:

Fernando Moreu, PhD, PE
Assistant Professor
Department of Civil Engineering

For further information, contact fmoreu@unm.edu

