



2022 SUMMER COURSE: CEE 452: DESIGN OF REINFORCED CONCRETE STRUCTURES

JOIN US THIS SUMMER!

Learn the fundamentals of reinforced concrete structural design this summer, while keeping your job or internship! Held entirely online, CEE 452 is a distance learning course designed to accommodate a variety of summer obligations and schedules. This is an excellent opportunity to take a core, and often required, course during the summer – from anywhere!

Reinforced concrete is one of the most widely used materials in the world, with much of the built world made of concrete. The course covers the basic material components of reinforced concrete, the composite behavior of concrete and steel, and the contemporary, code-compliant design of beams, columns, slabs and foundations. This course also covers serviceability and detailing requirements necessary for building with concrete.

FLEXIBLE FORMAT

With an online format, this course can be taken from anywhere, allowing students to enroll while working or completing a summer internship. Lectures will be recorded and class participation, homework and quizzes will be conducted online.

WHO CAN APPLY

Although designed as an undergraduate-level course, this class would be beneficial to both undergraduate and graduate students. It serves as an introduction to the fundamentals and design of reinforced concrete structures for students with a background in statics and mechanics of materials. Students from outside UW may enroll, as the course covers required material and should satisfy requirements at other universities.

WHAT YOU'LL LEARN

The course will enable you to:

- Characterize the structural behavior of reinforced concrete as a hybrid material to satisfy strength, stability and serviceability criteria
- Use Ultimate Limit State analysis and design to calculate factored loads and strength reduction factors that ensure capacity is greater than demand
- Design for flexure, shear, axial and combined loading in rectangular cross-sections, T-beams and doubly-reinforced sections
- Understand detailing requirements to ensure proper bond, strength development, splicing and anchorage
- Appreciate the interconnection of architectural, structural engineering and construction professions in reinforced concrete design

QUICK FACTS

- **Dates:** June 21- August 19, 2022
- **Credits:** 3
- **Register:**
www.summer.uw.edu

INSTRUCTOR CONTACT

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