

MSCE Structural Program – for students who started prior to fall 2022

Core Courses

- **CE 529:** Finite Element Analysis
- **CE 541:** Dynamics of Structures

If you took CE 529a do not take CE 529. CE 529a duplicates credit for CE 529.

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Electives

Reminder: at least 2/3 of the units applied to the degree must be at the 500-level or above.
Learn more.

Beyond the required courses (above) the rest of your course work should be selected from the per-approved electives to reach the minimum of 28 units to complete this degree.

Fall Elective Options

- CE 507:** Mechanics of Solids (4 units, fall only)
- CE 526:** Engineering Mathematical Methods (4 units, fall only)
- CE 535:** Earthquake Engineering Strong Motion Studies (2 units, fall only)
- CE 537:** Advanced Reinforced Concrete (4 units, fall only)
- CE 543:** Structural Instability & Failure (4 units, fall only)
- CE 546:** Structural Mechanics of Composite Materials (2 units, fall only)
- CE 548:** Timber and Masonry Structures (2 units, fall only)

Spring Elective Options

- CE 533:** Geotechnical Earthquake Engineering (4 units, spring only)
- CE 538:** Prestressed Concrete (2 units, spring only)
- CE 539:** Advanced Steel Structures (4 units, spring only)
- CE 540:** Tall and Special Structures (2 units, spring only)
- CE 542:** Plates & Shells (2 units, spring only)
- CE 547:** Earthquake Engineering - Response of Structural (4 units, spring only)
- CE 561:** Uncertainty Quantification (4 units, spring only)
- CE 629:** Advanced Finite Element Analysis (2 units, spring only)



Additional Elective Options

No more than four (4) units of course work can be taken from outside of traditional structural engineering topics. Often these courses involve areas such as construction, architecture, and planning. Listed below are recommended courses, but other courses, listed in the USC Catalog, might also be of interest:

- **CE 573:** Advanced Technologies in AEC
- **CE 470:** Building Information Modeling and Integrated Practice (BIM)

Subject to the approval of the faculty advisor, Dr. Brandow, additional courses may be taken in Structural Engineering or from related fields such as:

- Mechanical Engineering
- Aerospace Engineering
- Electrical Engineering

