

**PROGRESSIVE DEGREE PROGRAM
COURSE PLAN TEMPLATE**

USC SCHOOL	Viterbi School of Engineering
ACADEMIC DEPARTMENT	Sony Astani Civil and Environmental Engineering
GRADUATE PROGRAM	Structural Engineering
POST CODE	637
TERM EFFECTIVE DATE	Fall 2022

PROGRAM DESCRIPTION

A brief description of the graduate program.

The Master of Science in Civil Engineering is awarded in strict conformity with the general requirements of the USC Viterbi School of Engineering. A student may receive the Master of Science in Civil Engineering with a special option by specializing in one of the following courses of study: construction engineering; structural engineering; and transportation engineering. Students can choose the option of completing a thesis must include in their program 4 units of CE 594a and CE 594b. Total units for the degree is 28.

The Master of Science in Civil Engineering (MSCE) Structural Engineering deals with analytical and experimental studies of the behavior of structures (e.g., buildings, bridges, and dams) under service loads (e.g., traffic) and environmental loads (e.g., wind and earthquake).

COMMON BACHELOR DEGREE PROGRAM PATHWAYS

A list of common bachelor's degrees that undergraduate students pursue in advance of pursuing a progressive degree option with this graduate program. Some programs are restricted to certain majors while others are open to all students.

BS Civil Engineering	BS Civil Engineering (Structural Emphasis)
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PREPARATORY UNDERGRADUATE COURSES

A list of courses at the undergraduate level that prepare students for the graduate program. Required coursework is listed first, followed by recommended courses. If not applicable, this section will be blank.

Dept. Prefix - Course #	Course Title	Required or Recommended	Units
CE 215	Statics and Dynamics	Required	4
CE 309	Fluid Mechanics	Required	4
CE 358	Theory of Structures I	Required	4
CE 456	Structural Systems Design I	Required	4
CE 457	Structural Systems Design II	Required	4
CE 458	Computational Structural Analysis	Required	4
CE 459	Introduction to Structural Dynamics	Recommended	2

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UNDERGRADUATE COURSES USED TO REDUCE GRADUATE LEVEL UNITS

A list of undergraduate level courses that may be used to reduce the number of graduate level units required for the graduate program. If there are none, that is specified instead.

Dept. Prefix - Course #	Course Title	Units
	NONE	

CORE GRADUATE PROGRAM REQUIREMENTS (# units required)

A list of all required graduate courses for the graduate program. None of these courses may be used toward satisfying undergraduate degree requirements.

If special exceptions for any of these courses are made by the academic department, the course # is marked with an asterisk () and the exception is explained in the "Department Notes" section at the end of this course plan template.*

Dept. Prefix - Course #	Course Title	Units
CE 507	Advanced Mechanics	4
CE 541*	Dynamics of Structures	4
CE 599	Uncertainty Quantification	2
CE 599	Data Analytics in Engineering	2

PRE-APPROVED ELECTIVE COURSEWORK

Elective coursework is approved at the discretion of the academic department. Note the following details about the total number and units required of elective coursework.

16

TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

7

TOTAL ELECTIVE UNITS REQUIRED FOR THE PROGRESSIVE GRADUATE DEGREE

TOTAL UNIT COUNTS AND REQUIRED GRADUATE UNITS

28

TOTAL UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

9

TOTAL GRADUATE UNITS THAT MAY BE WAIVED (IF ANY)

19

MINIMUM NUMBER OF GRADUATE UNITS THAT MUST BE AT THE 500 LEVEL OR ABOVE

NOTES FROM THE DEPARTMENT

This section highlights any unique considerations, exceptions, or requirements for the graduate program. If a program has specific restrictions (courses, majors, etc.), they are detailed below.

*If CE 459 was completed, then CE 541 can be replaced with a 500-level CE elective.

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Kelly Goulis

Authorizing Dean's Name

October 26, 2022

Date Approved

Senior Associate Dean, Viterbi School of Engineering

Authorizing Dean's Title