

**PROGRESSIVE DEGREE PROGRAM
COURSE PLAN TEMPLATE**

USC SCHOOL	Viterbi School of Engineering
ACADEMIC DEPARTMENT	Sony Astani Civil and Environmental Engineering
GRADUATE PROGRAM	Civil Engineering (Water and Waste Management)
POST CODE	1428
TERM EFFECTIVE DATE	Spring 2021

PROGRAM DESCRIPTION

A brief description of the graduate program.

<p>The Master of Science in Civil Engineering (MSCE) Water and Waste Management is an interdisciplinary program with Sustainable Infrastructure Systems.</p> <p>The Sustainable Infrastructure Systems program prepares students for immediate and effective participation in the modern infrastructure workforce through a common core that includes:</p> <ul style="list-style-type: none"> • smart-system design for sustainable infrastructures • the societal and regulatory context of infrastructure engineering decisions • construction management
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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 Environmental Engineering
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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 453	Water Quality Science and Engineering	Recommended	4
CE 363	Water Chemistry and Analysis	Recommended	4

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	

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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 501	Functions of the Constructor	4
SAE 515	Sustainable Infrastructure Systems	3
	<i>The remaining units are completed via electives listed below</i>	

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.

13

TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE

12

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

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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.

Pre Approved Electives

CE 510: Groundwater Management (4 units)

CE 511: Flood Control Hydrology (3 units – offered intermittently)

CE 516: Geohydrology (3 units)

CE 520a: Ocean & Coastal Engineering (3 units)

ENE 502: Environmental and Regulatory Compliance (4 units)

ENE 510: Water Quality Management & Practice (4 units)

ENE 527: Water Quality Management & Practice (4 units)

ENE 535: Applied Air Quality Management (4 units)

Kelly Goulis

Authorizing Dean's Name

April 27, 2021

Date Approved

Senior Associate Dean, Viterbi School of Engineering

Authorizing Dean's Title