

PROGRESSIVE DEGREE PROGRAM COURSE PLAN TEMPLATE

USC SCHOOL	Viterbi School of Engineering
ACADEMIC DEPARTMENT	Ming Hsieh Department of Electrical and Computer Engineering
GRADUATE PROGRAM	MSCENG (Computer Engineering)
POST CODE	4
TERM EFFECTIVE DATE	Spring 2025

PROGRAM DESCRIPTION

A brief description of the graduate program.

The graduate program in computer engineering, offered through the Department of Electrical and Computer Engineering, is designed to provide students with an intensive background in the analysis, structure, design and function of digital computers and information processing systems. In addition to giving each student a fundamental background in digital logic, computer architecture and operating systems, a wide variety of elective courses allows for study in the following specialized areas: artificial intelligence; computer architecture; computer networks; computer system performance; design automation; fault-tolerant computers; microprocessors; parallel processing; real-time systems; robotics and VLSI design.

<https://minghsiehece.usc.edu/academics/bs/progressive-degree-program/>

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.

BSEE, BSECE, BSCECS, BSCSCI, BSCSBA	
Non-Viterbi students are unlikely to have the pre-reqs.	

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
EE 450	Intro to Networks	Recommended	4
EE 451	Parallel and Distributed Computation	Recommended	4
EE 454	Intro to System-on-Chip	Recommended	4
EE 457	Computer Systems Organization	Recommended	4
EE 477	MOS VLSI System Design	Recommended	4

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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
Same as above		

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
19 units of acceptable CENG graduate course work	Five 500 level advisor approved courses in EE of at least two units (no 1 unit courses) from the CENG list, and an option of one CSCI course (not on the CENG list) to equal at least 19 units. In addition, at least one course from two computer engineering areas is required: Computer Architecture, Networks, and/or VLSI/CAD.	

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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.

8*	TOTAL ELECTIVE UNITS REQUIRED FOR THE TRADITIONAL GRADUATE DEGREE
3-4**	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.

* two electives may be from outside the “big list” in the catalog

** one elective may be from outside the “big list” in the catalog

Kelly Goulis	4/18/2025 10:28:43 PM PDT
Authorizing Dean’s Name	Date Approved
Senior Associate Dean, Viterbi School of Engineering	
Authorizing Dean’s Title	