Department of Civil Engineering

Civil Engineering Master's Degree Program
Requirement Checklist

Department Procedures:

☐ Special Action Students (admitted with GPA between 2.5 and 2.74) need to first complete qualifying courses as specified by the academic advisor with a GPA of 3.0 or above.

☐ Admitted students may need to complete prerequisite course(s) depending on background and course preparation (e.g. non B.S. Civil Engineering degree). These courses will be determined in consultation with the academic advisor. Some of these courses may count toward the M.S. degree.

☐ Admitted students must receive department consent prior to enrolling in any CE 5000-level courses.

Degree Requirements:

☐ 31 units is required for the M.S. degree in Civil Engineering.
☐ 16 units from **Core** (6 units *Practice* + 6 units *Theory* + 3 units *Applied Math* + 1 unit *Seminar*).
☐ 12-15 units of CE electives (4000 and/or 5000); 6 units can be outside CE with advisor consent.
☐ Comprehensive Exam (0 units) or Thesis (3 units) is required.
☐ Minimum 16 units from CE 5000 level courses.
☐ Minimum 3.0 GPA required of all courses on the approved Study Plan. A grade of C is allowed; however, a grade of C- or below requires that the course be repeated with both grades computed in the GPA calculation.
☐ At least 21 units completed in residence at Cal State L.A.
☐ No more than 9 units of acceptable transferable units allowed (4000 and 5000-level).
☐ Maximum of 6 units of 5000-level graduate courses taken through extension.

☐ Graduate students are required to satisfy the graduation writing assessment requirement (GWAR). Students are considered to have met the GWAR requirement upon admission to the university if they (1) earned a bachelor's degree or higher from an accredited college or university where English is the medium of instruction; or (2) attained a score of 41 or better on the writing portion of the California Basic Educational Skills Test (CBEST) or a score of 4 on the analytic writing portion of the GRE or the GMAT.

Graduate students must satisfy this requirement before completing 12 semester units. Graduate students may take the writing proficiency exam once. Students who do not pass are required to pass the designated GWAR course. Students who do not satisfy the GWAR requirement within their first 12 units may be subject to a registration hold. Students must satisfy this Graduate Writing Requirement in order to be Advanced to Candidacy. Check Catalog for details.

Core Courses

Core Courses (16 units)

The core consists of six courses (16 units) chosen from four areas: Applied Math, Seminar, Practice, and Advanced Theory.

I. Applied Mathematics (3 units)

Choose one (1) course from the following list:

GEOG 4820 Multivariate Statistics in Geospatial Sciences	(3)
MATH 4030 Partial Differential Equations	(3)
ME 4090 Mechanical Engineering Analysis	(3)

II. Civil Engineering Seminar (1 unit)

CE 5500 Civil Engineering Graduate Seminar

III. Practice Courses (6 units)

Choose any two (2) courses from six civil engineering areas: Construction Management, Environmental, Geotechnical, Structural, Transportation, and Water Resources.

CE 5570 BIM and Advanced Technologies in Construction	
CE 5610 Advanced Steel Design	(3)
[Right] or	
CE 5620 Reinforced Concrete Design II	(3)
CE 5700 Geotechnical Earthquake Engineering	(3)
CE 5750 Urban Transportation Planning	(3)
CE 5790 Environmental Mass Transfer	(3)
CE 5860 Open Channel Hydraulics	(3)

IV. Advanced Theory (6 units)

Choose any two (2) courses from six civil engineering areas: Construction Management, Environmental, Geotechnical, Structural, Transportation, and Water Resources.

CE 5560 Construction Legal Aspects and Risk Management	
CE 5650 Dynamics of Structures	(3)
CE 5660 Geotechnical Engineering II	(3)
CE 5740 Traffic Flow Analysis	(3)
CE 5830 Hydrology II	(3)
CE 5850 Environmental Transport	(3)

2-Year Block Scheduling of CE MS Core Courses

Area	TERM			
	Fall Even Year	**Spring Odd Year**	**Fall Odd Year**	**Spring Even Year**
Seminar	CE 5500	--	CE 5500	--
CM	--	CE 5560 (T)	--	CE 5570 (P)
Env	CE 5790 (P)		CE 5850 (T)	
Geo	CE 5700 (P)		CE 5660 (T)	
Struct	--	CE 5650 (T)	--	CE 5610 or CE 5620 (P)
Transp	CE 5740 (T)	--	CE 5750 (P)	--
Water		CE 5860 (P)		CE 5830 (T)

(T) – Theory; (P) – Practice

Advancement to Candidacy

☐ Completion of a minimum of 12 semester units of the Master's degree study plan with an overall GPA of 3.0 or higher.

☐ Completion of the Applied Math core course with a grade of C or higher.

☐ Satisfaction of Graduation Writing Assessment.

☐ Approved Master's degree study plan.

Note: Only students who have been Advanced to Candidacy are eligible for the comprehensive exam or thesis.

Comprehensive Examination or Thesis

☐ With Advisor approval select either CE 5960 – Comprehensive Exam (0 units) or CE5990 – Thesis (3 units). In either case a major GPA of at least 3.0 is required to enroll in theseclasses.

Enrollment in CE 5960 – Comprehensive Exam will only be allowed during the semester in which the student has completed or is completing ALL coursework. If choosing the Comprehensive Exam option you may apply up to 3 units of CE 5980 – Graduate Directed Study toward the degree.

If choosing the Thesis Option you may apply up to 3 units of CE 5970 – Graduate Research, plus 3 units of CE 5990 – Thesis (for a combined total of 6 units) toward the degree.