

# M.S. in Civil Engineering

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## Educational Objectives

- Students will demonstrate an ability to apply advanced science and engineering concepts to the solution of complex engineering problems.
- Students will demonstrate an ability to communicate effectively orally and in written form.
- Students will demonstrate an ability to research, analyze, and/or design complex engineering systems to meet a desired need.

## Admission Requirements

Applicants must have completed a bachelor's in civil engineering or another related engineering discipline. Candidates wishing to pursue acceptance into the program with a non-Civil/Environmental Engineering background are welcomed to apply and should request specific detailed information regarding admission policy and possible leveling courses with the graduate advisor. Students need at least a 3.0 undergraduate grade point average to be considered for admission.

Recommendations for admission are made on the basis of the following:

- Grade point average in upper-division or graduate work as appropriate.
- Resume or evidence of relevant personal or professional experience.
- Two letters of recommendation
- Research needs of the faculty
- Availability of space in the area of interest.
- Submission of GRE scores is required for applicants who do not have an earned degree in a closely related discipline from a U.S. university.
- Applicants from countries where English is not the first language are required to demonstrate English proficiency. Please consult the graduate school (<http://catalog.utep.edu/admissions/graduate/graduate-student/>) website for required scores.

## Degree Requirements

For the Master of Science in Civil Engineering, thesis and non-thesis programs are available. Students enrolled in the thesis program normally take a minimum of 24 hours of coursework plus six (6) hours of CE 5398-CE 5399, Thesis. Non-thesis students follow a 33-hour program which includes credit for CE 5396-CE 5397, Graduate Projects.

## Degree Plan

Required Credits: 30

Code	Title	Hours
<b>MS in Civil Engineering Program (All courses require a grade of C or better)</b>		
Program Electives:		
Select twenty-four hours of Graduate CE courses (p. 1)		24
Thesis/Non-Thesis Option:		
Select one sequence below:		6-9
Thesis Option:		
CE 5398 & CE 5399	Thesis and Thesis	
Non-Thesis Option:		
CE 5396 & CE 5397	Graduate Projects and Graduate Projects	
Select three hours of Graduate CE courses (p. 1)		
<b>Total Hours</b>		<b>30-33</b>

## Graduate CE Courses

Code	Title	Hours
CE 5302	Grndwtr Hydro & Polltn	3
CE 5304	Adv Design of Struct Systems	3

CE 5305	Advanced Structural Analysis	3
CE 5307	Finite Element Method (3-0)	3
CE 5310	Risk/Reliability Anal-Engr Sys	3
CE 5312	Environmental Processes	3
CE 5313	Water Reclamation & Reuse	3
CE 5317	Stats Methods for Civil Eng	3
CE 5318	Bridge Engineering	3
CE 5320	Advanced Geotechnical Eng.	3
CE 5323	Prestressed Concrete	3
CE 5324	Construction Management	3
CE 5325	Design for Dynamic Loads	3
CE 5326	Air Pollution Control	3
CE 5331	Soil Stabilization	3
CE 5332	Methods Engineering Computatio	3
CE 5334	Unsaturated Soil Mechanics	3
CE 5340	Surface Water Hydrology	3
CE 5341	Hydraulic Computer Application	3
CE 5344	Biol Unit Operations/Processes	3
CE 5345	Adv Phy-Chem Water Treat	3
CE 5349	Design-Filtrat'n/Membrane Proc	3
CE 5351	Mech Pavement Design/Analysis	3
CE 5352	Foundation Design II	3
CE 5353	Geotech. Site Investigation	3
CE 5354	Adv Mech Electrical Construct	3
CE 5355	Advanced Civil Eng. Materials	3
CE 5356	Sustainable Engr Design	3
CE 5357	Structural Loads Models	3
CE 5358	Traffic Engineering	3
CE 5359	Foundation Design I	3
CE 5360	Highway Geometric Design	3
CE 5361	Traffic Flow/Simulat Modeling	3
CE 5362	Urban Transportation Planning	3
CE 5365	Infrastrct Syst Design & Eval	3
CE 5371	Construction Dispute Resolutn	3
CE 5381	Sustainable Construction	3
CE 5382	Adv Constr Cost Analysis & Bid	3
CE 5385	Construction Internship	3
CE 5386	Adv Construction Law & Ethics	3
CE 5387	Adv Construction Scheduling	3
CE 5388	Advanced Construction Safety	3
CE 5389	Adv Constr Methods & Materials	3
CE 5390	Special Topics Civil Engr	3
CE 5391	Individual Studies	3
CE 5392	Earth Construction	3
CE 5394	Graduate Research	3
CE 5395	Construction Claims	3
CE 5396	Graduate Projects	3
CE 5397	Graduate Projects	3
CE 5409	Environmental Eng Chemistry	4
CE 5694	Graduate Research	6
CE 6195	Civil Engineering Seminar	1
CE 6296	Doctoral Research	2

CE 6301	Infrastructure Management	3
CE 6303	Engineering Analysis (3-0)	3
CE 6306	Infrastructure Engineering	3
CE 6313	Water Resources Mgmt	3
CE 6332	Mod Methods/Engr Computation	3
CE 6396	Doctoral Research	3
SC 5301	Fundamentals of Smart Cities	3
SC 5302	Smart Cities Design	3