

# 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 for admission from other backgrounds 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 whose degrees are from non-English speaking institutions are required to demonstrate English proficiency. Please consult the Graduate School (<https://www.utep.edu/graduate/future-students/applicant-timelines.html>) 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 Systms	3
CE 5305	Advanced Structural Analysis	3

CE 5307	Finite Element Method	3
CE 5310	Risk/Reliability Anal-Engr Sys	3
CE 5312	Environmental Processes	3
CE 5313	Water Reclamation & Reuse	3
CE 5314	System Approach to Civil Engineering Problems	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
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