

CIVIL ENGINEERING - MASTER OF ENGINEERING IN CIVIL ENGINEERING

The Master of Engineering degree in Civil Engineering (M.E. in CE) is a coursework only degree and several courses are offered online. The M.E. in CE degree requires a total of 30-31 credit hours consisting of one professional communications course (3 credit hours); seven technical electives in Civil, Environmental, and/or Agricultural Engineering (21-22 credit hours); and two electives from engineering disciplines outside the department and/or other areas of interest outside the college (6 credit hours).

Prefix	Title	Credits
Required course		3
C E 498/596	Special Topics (Technical Communication for Engineers) ¹	
CE, ENVE, and A EN elective courses²		21-22
Six courses to be selected from the following list of courses (numbered 450-599) ³		
<i>Environmental Engineering</i>		
ENVE 456	Environmental Engineering Design	
ENVE 459	Environmental Microbiology ¹	
ENVE 487	Air Pollution Control Systems Design ¹	
ENVE 550	Aquatic Chemistry ¹	
ENVE 551	Unit Processes/Operation of Water Treatment ¹	
ENVE 552	Unit Processes/Operation of Wastewater Treatment ¹	
ENVE 557	Surface Water Quality Modeling ¹	
<i>Geotechnical Engineering</i>		
C E 457	Foundation Design ¹	
C E 470	Design of Municipal and Hazardous Waste Landfills	
C E 479	Pavement Analysis and Design ¹	
C E 485	Design of Earth Dams	
C E 506	Advanced Soil Mechanics	
C E 507	Design of Earth Retaining Structures ¹	
C E 508	Advanced Soil Behavior	
C E 509	Deep Foundations ¹	
C E 579	Ground Improvement ¹	
<i>Structural Engineering</i>		
C E 469	Structural Systems	
C E 501	Advanced Mechanics of Materials ¹	
C E 510	Introduction to Nondestructive Testing ¹	
C E 515	Finite Element Methods ¹	
C E 544	Advanced Design of Steel Structures ¹	
C E 545	Advanced Concrete Design ¹	
C E 554	Wood Design	
C E 571	Structural Dynamics ¹	
C E 572	Earthquake Engineering	
<i>Water Resources and Agricultural Engineering</i>		
C E 452	Geohydrology	
C E 482	Hydraulic Structures	
C E 483	Surface Water Hydrology	
C E 531	Open Channel Hydraulics	
C E 557	Water Resources Development	

C E 581	Ground Water Hydrology	
C E 582	Statistical Hydrology	
A EN 459	Groundwater, Wells & Pumps	
A EN 478	Irrigation and Drainage Engineering	
<i>Transportation and Construction</i>		
C E 471	Transportation Engineering ¹	
C E 477	Engineering Economics and Construction Management ¹	
MECE elective courses⁴		6
Three courses to be selected from the following list of courses (numbered 450-599) ³		
<i>Chemical and Materials Engineering</i>		
CHME 567	Nanoscience and Nanotechnology ¹	
<i>Engineering Technology</i>		
E T 454	Advanced Construction Technology	
E T 455	Cost Estimating and Scheduling	
E T 472	Intelligent Transportation Systems (ITS) ¹	
E T 480	Innovation and Product Development	
<i>Industrial Engineering</i>		
I E 515	Stochastic Processes Modeling ¹	
I E 523	Advanced Engineering Economy ¹	
I E 533	Linear Programming ¹	
I E 534	Nonlinear Programming ¹	
I E 535	Discrete Optimization ¹	
I E 561	Advanced Safety Engineering ¹	
I E 563	Topics in Engineering Administration ¹	
<i>Mechanical Engineering</i>		
M E 456	Experimental Modal Analysis	
M E 460	Applied Finite Elements	
M E 502	Elasticity I ¹	
M E 504	Continuum Mechanics ¹	
M E 530	Intermediate Fluid Mechanics	
M E 533	Computational and Theoretical Fluid Mechanics	
M E 570	Engineering Analysis I ¹	
M E 580	Engineering Analysis II	
Total Credits		30-31

1

Course offered online in the Fall, Spring, or Summer semester

2

Electives should be chosen from at least 2 different areas (e.g., geotechnical and structural, environmental and water resources/agricultural)

3

Up to 12 credit hours of undergraduate courses numbered 450-499 may be applied towards the M.E. in CE degree

4

Courses listed represent only a partial list of engineering electives that may be taken outside the department; courses in other areas of interest outside the college may be taken including, but not limited to, environmental science, mathematics, statistics, geography, soil science, geology, business, economics, and management (all M.E. in CE electives must be approved by graduate advisor and department head)