CIVIL ENGINEERING - MASTER OF ENGINEERING IN CIVIL ENGINEERING (ONLINE)

The Master of Engineering degree in Civil Engineering (M.E. in C E) (Online Program) is a coursework only degree that requires a total of 30-31 credit hours consisting of one general elective 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
General elective course [1]		**3**
C E 490	Introduction to Artificial Intelligence for Civil Engineers	
C E 510	Introduction to Nondestructive Testing	
C E 514	Numerical Methods in Civil Engineering	
C E 535	Technical Communication for Engineers	
CE, ENVE, and A EN elective courses [1, 2]		**21-22**
Seven courses to be selected from the following list of courses (numbered 450-599) [3]		
Environmental Engineering		
ENVE 459	Environmental Microbiology	
ENVE 487	Air Pollution Control Systems Design	
ENVE 550	Aquatic Chemistry	
ENVE 551	Unit Processes/Operation of Water Treatment	
ENVE 552	Unit Processes/Operation of Wastewater Treatment	
ENVE 557	Surface Water Quality Modeling	
Geotechnical Engineering		
C E 470	Design of Municipal and Hazardous Waste Landfills	
C E 479	Pavement Analysis and Design	
C E 507	Design of Earth Retaining Structures	
C E 508	Advanced Soil Behavior	
C E 509	Deep Foundations	
C E 579	Ground Improvement	
C E 585	Slope Stability Analysis and Design	
Structural Engineering		
C E 501	Advanced Mechanics of Materials	
C E 502	Advanced Mechanics of Steel Structures	
C E 515	Finite Element Methods	
C E 544	Advanced Design of Steel Structures	
C E 545	Advanced Concrete Design	
C E 554	Wood Design	
C E 555	Masonry Design	
C E 547	Bridge Engineering	
C E 571	Structural Dynamics	
Water Resources and Agricultural Engineering		
C E 452	Geohydrology	
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	
Transportation and Construction		
C E 471	Transportation Engineering	
C E 477	Engineering Economics and Construction Management	
MECE elective courses [1, 4]		**6**
Two courses to be selected from the following list of courses (numbered 450-599) [3]		
Chemical and Materials Engineering		
CHME 479	Corrosion and Degradation of Materials	
CHME 567	Nanoscience and Nanotechnology	
Engineering Technology		
E T 455	Cost Estimating and Scheduling	
E T 459	Construction Technology and Management	
E T 472	Intelligent Transportation Systems (ITS)	
E T 480	Innovation and Product Development	
SUR 451	Spatial Data Adjustment II	
SUR 452	Surveying Practicum	
SUR 461 & 461L	GNSS Positioning and GNSS Positioning Lab	
SUR 464	Legal Principles and Boundary Law II	
SUR 485	Emerging Techniques in Geospatial Technologies	
Industrial Engineering		
I E 459	Systems Thinking and Decision Making	
I E 515	Stochastic Processes Modeling	
I E 523	Advanced Engineering Economy	
I E 533	Linear Programming	
I E 534	Nonlinear Programming	
I E 535	Discrete Optimization	
I E 537	Large Scale Systems Engineering	
I E 561	Advanced Safety Engineering	
I E 563	Topics in Engineering Administration	
Mechanical Engineering		
M E 456	Experimental Modal Analysis	
M E 502	Elasticity I	
M E 504	Continuum Mechanics	
M E 530	Intermediate Fluid Mechanics	
M E 533	Numerical Methods for Fluid Mechanics and Heat Transfer	
M E 557	Engineering Failure Analysis	
M E 570	Engineering Analysis I	
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)