

INFRASTRUCTURE COURSES

The following is the potential courses that could be taken to meet the Department's requirements. Before taking a course you should discuss with your advisor to see if they meet your curriculum plan. If a student's advisor and supervisory committee wishes to vary from the course requirements a formal petition must be submitted to the Graduate Studies Committee.

Core Courses

As part of the 15 CORE Credits, structural and geotechnical students should take at least one course from each one of the following areas.

* Structures Area

CVEEN 6210	Structural Analysis II
CVEEN 6220	Concrete Design II
CVEEN 6230	Steel Design II
CVEEN 6250	Structural Dynamics

** The requirement can be partially or fully waived if the student passed at least one of the courses (or equivalent) in undergraduate studies. The waiver will not reduce the minimum credit course requirements for the MS degree.*



* Geotechnics Area

CVEEN 5305/6305	Introduction to Foundation Engr
CVEEN 6310	Foundation Engineering
CVEEN 6330	Soil Dynamics
CVEEN 6350	Soil Improvement and Stabilization
CVEEN 6920	Numerical Methods in Geotechnical Engr



Core Courses

CVEEN 5305	Introduction to Foundation Engr
CVEEN 6210	Structural Analysis II
CVEEN 6220	Concrete Design II
CVEEN 6225	Concrete Science
CVEEN 6230	Steel Design II
CVEEN 6240	Masonry/Timber Design
CVEEN 6250	Structural Dynamics
CVEEN 6270	Computer-Aided Structural Analysis
CVEEN 6310	Foundation Engineering
CVEEN 6330	Soil Dynamics
CVEEN 6340	Advanced Geotechnical Testing
CVEEN 6350	Soil Improvement and Stabilization
CVEEN 6510	Highway Design
CVEEN 6525	Highway and Traffic Engineering
CVEEN 6570	Pavement Design
CVEEN 6790	Advanced Computer Aided Construction
CVEEN 7225	Prestressed Concrete Design Advanced
CVEEN 7230	Topics in Steel Design
CVEEN 7235	Bridge Design
CVEEN 7250	Structural Earthquake Engineering
CVEEN 7255	Advanced Dynamics of Structures
CVEEN 7310	Advanced Foundation Engineering
CVEEN 7330	Geotechnical Earthquake Engineering
CVEEN 7360	Advanced Soil Mechanics
CVEEN 7450	Carbon Capture and Store Transportation
CVEEN 7520	Safety
CVEEN 7560	Advanced Materials
CVEEN 7570	Pavement Maintenance and Rehabilitation



Elective Courses

CVEEN 6225	Concrete Material Science
CVEEN 6235	Bridge Design
CVEEN 6260	Applied Probability and Statistics
CVEEN 6305	Introduction to Foundation Engineering
CVEEN 6320	Waste Containment Systems
CVEEN 6350	Soil Improvement and Stabilization
CVEEN 6810	Cost Estimating and Proposal Writing
CVEEN 6820	Project Scheduling
CVEEN 6830	Project Management and Contract Administration
CVEEN 6850	Engineering Law & Project Management
CVEEN 6920	Special Topics (courses emphasizing Materials, Structures or Geotechnics only)
CVEEN 6930	Independent Study
CVEEN 7260	Seismic Rehabilitation of Reinforced Concrete Buildings
CVEEN 7920	Special Topics (courses emphasizing Materials, Advanced Material Testing, Structures or Geotechnics only)
CVEEN 7930	Advanced Independent Study
CS 5600	Introduction to Computer Graphics
CS 6300	Artificial Intelligence
CS 6610	Interactive Computer Graphics
GEO 5075	Introduction to Geological Engineering
GEO 5150	Geological Engineering Design
GEO 5200	Depositional Environments
GEO 5210	Seismology I: Tectonophysics and Elastic Waves
GEO 5220	Seismology II: Exploration and Engineering Seismology
GEO 5320	Signal and Image Processing in the Geosciences
GEO 6160	Clay Mineral Geochemistry
GEO 6260	Petrophysics and Well-Logging
GEO 6330	Earthquake Seismology and Risk Assessment
GEO 6350	Groundwater
GEO 6360	Fluid Dynamics of Earth Materials
GEO 6370	Contaminant Partitioning for Engineers and Scientists
GEO 6660	Geochemistry
MATH 6420	Partial Differential Equations
MATH 6610	Analysis of Numerical Methods I
MATH 6620	Analysis of Numerical Methods II
ME EN 6300	Advanced Strength of Materials
ME EN 6400	Vibrations
ME EN 6510	Introduction to Finite Elements
ME EN 6520	Mechanics of Composite Materials
ME EN 7060	Fatigue and Creep Considerations in Design
ME EN 7070	Tribology and Corrosion Considerations in Design
ME EN 7530	Fundamentals of Fracture Mechanics
ME EN 7540	Advanced Finite Elements
ME EN 7550	Theory of Plates and Shells

MET E 6100	Micromechanisms of Fatigue and Fracture
MET E 6250	Fundamentals of Engineering Analysis
MET E 6300	Alloy and Material Design
MET E 6450	Mechanical Metallurgy
MET E 6600	Corrosion Fundamentals & Minimization
MG EN 5150	Mechanics of Materials
MG EN 5270	Landslides and Slope Stability
MG EN 5290	Introduction to Finite Element Modeling in Geomechanics
MSE 5032	Thermodynamics of Solids
MSE 5475	Introduction to Composites
MSE 6001	Engineering Materials

Only 9 credits outside of the Department may be used towards a master's degree. Other courses may be approved by Supervisory Committee.

