Department of Civil Engineering
Master of Science (M.S.) Degree Requirements
Area of Study: Environmental Engineering

The Master of Science (M.S.) degree requires 32 credit hours of approved courses and research. At least 25 credit hours must be coursework, and a thesis.

NOTE: All documents requiring departmental signatures must be submitted to the Civil Engineering Graduate Office at least one day prior to the Office of Graduate Studies deadline.

In addition to fulfilling the University requirements for the Master of Science (M.S.) degree, a student enrolled in the Civil Engineering graduate program in the area of Environmental Engineering must satisfy the following:

- A minimum of 24 hours must be taken from course offerings of the following colleges: Engineering, Geosciences, and Science.
- Core course requirements (13 credits):
  - CVEN 619 Environmental Engineering Processes I (3 credits)
  - CVEN 620 Environmental Engineering Processes II (3 credits)
  - CVEN 601 Environmental Engineering Processes III (3 credits)
  - CVEN 603 Environmental Engineering Management (3 credits)
  - CVEN 681 Environmental Engineering Seminar (1 credit)
- A maximum of 9 hours of advanced undergraduate coursework (must be 400-level if CVEN/OCEN/BAEN courses).
- A minimum of 18 hours of graduate level coursework taken at Texas A&M University (excluding CVEN 691).
- A maximum of 7 hours of CVEN 691 or combination of CVEN 691 and CVEN 685.
- The combination of CVEN 691, CVEN 685, transfer credit, and permissible undergraduate coursework may not exceed the greater of 12 hours or one-third (1/3) of the total hours on the degree plan.

The following are requirements and/or recommendations:

**Other Suggested CVEN Courses**
Relevant Geotechnical or Ocean Engineering courses w/pre-requisites.

**Other Suggested STAT Courses**
STAT 601 Statistical Analysis
STAT 602 Statistical Methods of Regression Analysis

**Water Resources Courses**
CVEN 627 Engineering Surface Water Hydrology
CVEN 628 Advanced Hydraulic Engineering
CVEN 658 Civil Engineering Applications of GIS
CVEN 664 Water Resources Engineering Planning and Management
CVEN 665 Water Resources Systems Engineering
CVEN 673 Transport Through Porous Media
CVEN 674  Groundwater Engineering
CVEN 675  Stochastic Hydrology
CVEN 679  Theory of Fluid Mechanics Models
CVEN 680  Advanced Computation Methods for Fluid Flow
CVEN 688  Computational Fluid Dynamics

Other Classes
ATMO 602  Principles of Atmospheric Physics and Chemistry
ATMO 613  Advanced Atmospheric Chemistry
BICH 601  Fundamentals of Biochemistry I
BAEN 651  Geographic Information Systems
BAEN 652  Advanced Topics in GIS
BAEN 669  Water Quality Engineering
BAEN 670  Air Pollution Engineering
BAEN 672  Small Watershed Hydrology
BAEN 673  Modeling Small Watersheds
BIOL 650  Genomics
BIOT 601  Biotechnology Principles and Techniques I
BIOT 602  Biotechnology Principles and Techniques II
CHEN 651  Biochemical Engineering
CHEN 629  Transport Phenomenon
CHEN 624  Chemical Engineering Kinetics and Reactor Design
OCEN 678  Fluid Dynamics for Ocean and Environmental Engineering
GEOL 621  Contaminant Hydrogeology
GEOL 641  Environmental Geochemistry
MATH 601  Methods of Applied Math
MATH 602  Partial Differential Equations
MATH 609  Numerical Analysis
RLEM 601  Rangeland Resource Management
RLEM 601  Ecology and Land Uses
RLEM 640  Wetland Delineation
RENR 650  Leadership Development and Management of Environmental NGOs
RENR 659  Ecological Economics
RENR 660  Environmental Impact Analysis for Renewable Natural Resources
RENR 662  Environmental Law and Policy
RENR 664  Coastal Zone Management
AGRO 614  Biodegradation and Bioremediation (VAPH 614)
AGRO 615  Reclamation of Drastically Disturbed Lands
AGRO 616  Land Disposal of Waste
AGRO 670  Basic Environmental Toxicology
WFSC 628  Wetland Ecology

- Degree Plan: An advisory committee must be formed and a Degree Plan must be submitted and approved by the advisory committee by the end of the first semester of study.
- Research Proposal: A draft Research Proposal must be submitted to the advisory committee chair at least 2 weeks (10 working days) prior to revision and subsequent submittal to other members of advisory committee. These other members of the advisory committee will be provided at least
2 weeks (10 working days) to review the revised draft Research Proposal prior to the end of the second semester of study. Thus, the draft Research Proposal must be submitted to the advisory committee chair at least 4 weeks (20 working days) prior to end of the second semester of study.

- Completion of Thesis: A draft Thesis must be submitted to the advisory committee chair at least 2 weeks (10 working days) prior to revision and subsequent submittal to other members of advisory committee. These other members of the advisory committee will be provided at least 2 weeks (10 working days) to review the revised draft Thesis prior to the Final Defense. Thus, the draft Thesis must be submitted to the advisory committee chair at least 4 weeks (20 working days) prior to the Final Defense.

- Final Defense: A Final Defense consisting of an oral examination will be scheduled with all of the advisory committee members. At this examination, the student will give a presentation of the research work completed for the degree and documented in the Thesis.

1. 3 of these 24 hours may be outside of colleges of Engineering, Geosciences, and Science if selected from a list of courses approved by the student’s specialty area as outlined by the specialty area’s documented course work requirements.
2. Certain courses within the College of Engineering are prohibited from use on the degree plan unless written justification is made by the student’s advisor and approved by the Departmental Graduate Advisor prior to enrolling in the course. Please see Departmental Graduate Advisor for listing of prohibited courses.
3. All coursework should be discussed with advisory committee chair before enrolling in course. All coursework must be consistent with the student’s chosen field of study and commensurate with graduate study.