Department of Civil Engineering  
Doctor of Engineering (D.Eng.) Degree Requirements  
Area of Study: Environmental Engineering

The Doctor of Engineering (D.Eng.) degree requires 21 credit hours of professional development coursework, and an internship.

This degree program is administered by the College of Engineering through the Department of Civil Engineering. The applicant must first be admitted into the Department's Ph.D. program and then be interviewed by the College's Admissions Subcommittee. To enter the D.Eng. program, the applicant must have earned an ABET-accredited bachelor's degree (or equivalent). More information can be found at: [http://eapo.tamu.edu/engr/](http://eapo.tamu.edu/engr/).

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 Doctor of Engineering (D.Eng.) degree ([http://eapo.tamu.edu/engr/docs/DOEmanual-04-22-05.pdf](http://eapo.tamu.edu/engr/docs/DOEmanual-04-22-05.pdf)), a student enrolled in the Civil Engineering graduate program in the area of Environmental Engineering must satisfy the following requirements and/or recommendations:

- CVEN 684 Professional Internship is required (16 credits)
- If not already satisfied by a M.S./M.E. degree, all students are required to take the core courses in environmental engineering (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)
- 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 Mngt of Environmental NGOs
- RENR 659  Ecological Economics
- RENR 660  Environmental Impact Analysis for Renewable Nat. 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

Relevant CVEN, OCEN, BAEN, and other Graduate Courses per recommendations of the advisory committee and department requirements

- **Qualifying Exam:** During the first semester of study, an Oral Qualifying Exam will be scheduled with members of the Civil Engineering Environmental faculty and a Civil Engineering faculty member outside the Environmental area. The exam should be taken within the first two semesters of study. At this examination, the student will give a presentation of research work completed for a previous degree and questions can cover material addressed in the required coursework for the Environmental area.
• Degree Plan: An advisory committee must be formed and a Degree Plan must be submitted and approved by the advisory committee after passing the Qualifying Exam and by the end of the fourth semester of study.

• Written Preliminary Exam: After completion of the coursework listed on the Degree Plan (with the exception of CVEN 684 Professional Internship), a Written Preliminary Exam will be scheduled with members of the advisory committee. This exam consists of written questions from the advisory committee. Each question should be given over a period of one day, and the exam in total should be given over a period of one week.

• Oral Preliminary Exam: After passing the Written Preliminary Exam, an Oral Preliminary Exam will be scheduled with members of the advisory committee. At this examination, the student will give a presentation of the proposed Internship. The questions in this exam will cover the Written Preliminary Exam, the Oral Preliminary Exam presentation, and any relevant coursework.

• Completion of Record of Study: A draft Record of Study must be submitted to the advisory committee chair at least 3 weeks (15 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 Record of Study prior to the Final Defense. Thus, the draft Record of Study must be submitted to the advisory committee chair at least 5 weeks (35 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 Internship experience completed for the degree and documented in the Record of Study.

1 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.