Master of Philosophy (MPhil) and Doctor of Philosophy (PhD) Programs in Environmental Engineering

Curriculum for Master of Philosophy (MPhil) Program in Environmental Engineering

The Master of Philosophy (MPhil) program requires students to complete at least 15 credits of approved coursework taken from more than one department, participation in the graduate seminar program EVNG 6050 Environmental Engineering Seminar every regular term, and successful defense of a research thesis.

Of the 15 credits, students are required to take at least 9 credits from courses offered by the School of Engineering in List A below. Students taking courses from List B must have the prior approval from their thesis supervisors and the final endorsement of the Program Director. Students who do not have sufficient exposure to environmental courses need to take CIVL 2420 Water and Wastewater Engineering and/or MECH 4210 Air Pollution Control / CIVL 4470 Air Quality Control and Management, or equivalent courses as advised by the EVNG Program Committee. In addition to the 15 credits, students must present at least one seminar and complete LANG 5001 Postgraduate English for Academic Purposes during their study. Students can be exempted from taking LANG 5001 with the agreement of the Program Director. Students must demonstrate in their research thesis competence in environmental research and pass the oral defense examination.

Curriculum for Doctor of Philosophy (PhD) Program in Environmental Engineering

The Doctor of Philosophy (PhD) program requires students to complete at least 15 credits of approved coursework taken from more than one department. Of the 15 credits, students are required to take at least 9 credits from courses offered by the School of Engineering in List A below. Students taking courses from List B must have the prior approval from their thesis supervisors and the final endorsement of the Program Director. Students admitted to this program should possess a master's degree. In exceptional circumstances, if outstanding students are admitted to the program without a master's degree, they may be required to take additional credits to fulfill the program requirements. Students with a master's degree in an Environmental Engineering or a closely related field may be granted credit transfer by the Program Director on a case-by-case basis.

Students must participate in the graduate seminar program EVNG 6050 Environmental Engineering Seminar every regular term. In addition to the 15 credits, students must present at least two seminars and complete LANG 5001 Postgraduate English for Academic Purposes during their degree studies. Students can be exempted from taking LANG 5001 with the agreement of the Program Director.

To become a doctoral candidate, the student must pass a qualifying examination within the first 18 months of his PhD study. The qualifying examination involves the submission of a research proposal and an oral/written examination given by the Thesis Supervision Committee. The purpose of the qualifying examination is to establish the student's ability to formulate and conduct original research in the chosen field of study. Upon completion of the coursework and the thesis, the candidate is required to defend the thesis before a Thesis Examination Committee.

List A Courses

Students are required to take at least 9 credits of coursework from the following courses offered by the School of Engineering. A maximum of 6 credits of 4000-level UG courses may be taken.

CENG	5210	Advanced Separation Processes
CENG	5320	Water Quality Assessment
CENG	5650	Environmental Biotechnology
CENG	5760	Advanced Physico-Chemical Treatment Processes
CENG	5840	Nanomaterials for Chemical Engineering Applications
CIVL	4430	Environmental Impact Assessment
CIVL	4460	Process Design of Environmental Engineering Facilities
CIVL	4470	Air Quality Control and Management
CIVL	4480	Air Quality Modeling and Analysis
CIVL	4520	Municipal Hydrosystems Engineering and Management
CIVL	5410	Physical-Chemical Water/Wastewater Treatment
CIVL	5420	Biological Waste Treatment
CIVL	5430	Aquatic Chemistry
CIVL	5450	Hazardous Waste Treatment and Site Remediation
CIVL	5460	Landfill Engineering and Design
CIVL	5470	Industrial Wastewater Treatment
MECH	4210	Air Pollution Control
MECH	4350	Indoor Air Quality in Buildings
MECH	5210	Fluid Dynamics

List B Courses

The following are courses offered by departments outside the School of Engineering that may be counted toward the program requirements.

ENVR	5210	Environmental Microbiology
ENVR	6050	Introduction to Oceanography
EVSM	5220	Advanced Environmental Chemistry
SOSC	5620	Sustainable Development