

CEE Master of Science in Environmental Engineering Curriculum (Applicable for all students with effect from intake **January 2010**)

Information is updated and correct as @ 28 December 2011. CEE has the right to amend the curriculum, if necessary.

Programme Structure

The Master of Science (M.Sc.) in Environmental Engineering is structured around lectures, continual assessments and end-of-semester examinations. Candidates may opt for part-time or full-time study.

Part-time students will normally read 2 graduate modules equivalent to 8 MCs per semester and attend lectures two evenings per week. Full-time students will normally read 3 - 4 graduate modules equivalent to 12 – 16 MCs per semester and attend lectures three to four evenings per week.

A candidate needs to complete a program of study consisting of 1 core module and at least 9 elective or other approved modules.

Some modules have prerequisites. It is the candidate's responsibility to ensure that the prerequisite requirements, if any, are met.

Candidates should also note that the final composition of graduate modules proposed by themselves is subject to approval by Department of Civil & Environmental Engineering (CEE). Candidates may, as a part of the 10-module requirement for the MSc and subject to approval by CEE, take up to 2 modules not exceeding 10 MCs that are from other departments/faculties.

Modular Requirements

The graduate requirements include obtaining a minimum Cumulative Average Point (CAP) of 3.0 (equivalent to an average of Grade of B-) for the best 40 Modular Credits (MCs), inclusive of core module. Of the 40 MCs, all must be at graduate level and at least 30 MCs must be within the subject or in a related discipline, and the remaining credits may be from other disciplines as approved by CEE.

CORE MODULE

ESE 5001 Environmental Engineering Principles

OTHER MODULES

ESE 5002 Environmental Engineering 1 (Physical and Process Principles)
ESE 5003 Environmental Engineering 2 (Environmental Chemical Principles)
ESE5201 Combustion Pollution Control
ESE5202 Air Pollution Control Technology
ESE5203 Aerosol Science & Technology
ESE5204 Toxic & Hazardous Waste Management
ESE5205 Sludge and Solid Waste Management
ESE5301 Environmental Biological Principles
ESE5401 Water Quality Management

ESE5402 Industrial Wastewater Control
ESE5403 Water Reclamation & Reuse
ESE5404 Biological Treatment Processes
ESE5405 Water Treatment Processes
ESE5406 Membrane Treatment Process Modeling
ESE5407 Membrane Technology for Water Management (Subject to University's approval)
ESE5601 Environmental Risk Assessment
ESE5602 Environmental Management Systems
ESE5603 Pollution Minimization & Prevention
ESE5604 Process Engineering Design Principles
ESE5607 Green Catalysis
ESE5608 Heavy Metals in the Environment
ESE5901 Environmental Technology
ESE6001 Environmental Fate of Organic Contaminants
ESE6301 Topics in Environmental Biotechnology
ESE6401 Advanced Biological Treatment Processes
ESE6402 Advanced Water Treatment Processes
ESE6403 Topics in Membrane Purification
ESE6404 Advanced Contaminant Transport

Program Structure for M.Sc. (Environmental Engineering)

A. To complete the following 1 Core Module

ESE5001 Environmental Engineering Principles

B. At least 7 elective modules from the following

ESE5xxx Any ESE5000 level series graduate elective module

ESE6xxx Any ESE6000 level series graduate elective module

C. Up to 2 additional elective modules for a total of 10 modules for the MSc.

D. Note that all 10 required modules can be from CEE but a maximum of 2 modules of the 10 required modules may be from other Departments/Faculties, including the following modules (subject to approval of CEE)

DE5107 Environmental Planning

GE6211 Spatial Data Processing

LX5103 Environmental Law

PP5227 Environmental Policy and Natural Resource Management

SH5101 Industrial Toxicology

SH5104 Occupational Health

All modules listed are of 4 MCs each.