MASTER OF SCIENCE (CIVIL ENGINEERING)

The Master of Science (Civil Engineering) programme, or MSc (CE), is hosted by the Department of Civil & Environmental Engineering. To qualify for the MSc (CE) degree with or without specialization, a candidate must successfully complete a programme of study consisting of at least 40 Modular Credits (MCs). At least 30 MCs must be taken from 5000 and 6000 Level modules. In addition, a student must obtain a minimum Cumulative Average Point (CAP) of 3.00 (equivalent to an average of grade of B-) for the best modules equivalent to 40 MCs (inclusive of compulsory modules, where required). A student may choose to graduate with the following degrees:

- MSc (Civil Engineering)
- MSc (Civil Engineering) with specialization in Structural Engineering
- MSc (Civil Engineering) with specialization in Geotechnical Engineering
- MSc (Civil Engineering) with specialization in Infrastructure Project Management

Students who wish to graduate with a specialization, they must also meet the requirements for that specialization stipulated below.

1. **Specialization in Structural Engineering**

Candidates who wish to obtain the MSc (CE) with specialization in Structural Engineering must pass five (20 MCs) of the following distinct modules, each with a grade point of at least 2.0 (Grade C):

- CE5509 Advanced Structural Steel Design
- CE5510 Advanced Structural Concrete Design
- CE5513 Plastic analysis of structures
- CE5604 Advanced Concrete Technology
- CE5610 Assessment and Retrofit of Concrete Structures
- CE5611 Precast Concrete Technology
- CE6006 Advanced Finite Element Analysis
- CE6705 Analysis and Design of Buildings against Hazards
- ME5103 Plates and Shells (from AY2017/2018)
  *(Students who have read CE5514 Plate & Shells are not allowed to read ME5103)*

Should a student wish, with valid reasons, to replace any of the above modules by another appropriate module, approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

The remaining five modules (20 MCs) to satisfy the degree requirements may be selected from Level 5000 and 6000 modules offered by the Department of Civil & Environmental Engineering. For modules offered by other Departments, prior approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

2. **Specialization in Geotechnical Engineering**

Candidates who wish to obtain the MSc (CE) with specialization in Geotechnical Engineering must pass five (20 MCs) of the following distinct modules, each with a grade point of at least 2.0 (Grade C):

- CE5101 Seepage and Consolidation of Soils
- CE5104 Underground Space
- CE5105 Analytical and Numerical Methods in Foundation Engineering
- CE5106 Ground Improvement
- CE5107 Pile Foundation
- CE5108 Earth Retaining Structures
Should a student wish, with valid reasons, to replace any of the above modules by another appropriate module, approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

The remaining five modules (20 MCs) to satisfy the degree requirements may be selected from level 5000 and 6000 modules offered by the Department of Civil & Environmental Engineering. For modules offered by other Departments, prior approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

3. **Specialization in Infrastructure Project Management**

For this specialization, students must pass at least five (20 MCs) of the following six modules, each with a grade point of at least 2.0 (Grade C):

- CE5603 Engineering Economics and Project Evaluation
- CE5804 Global Infrastructure Project Management
- CE5805 Construction Equipment and Methods
- CE5806 Construction Project and Site Control
- PM5103 Contract Management
- PM5109 Project Management Law

Should a student wish, with valid reasons, to replace any of the above modules by another appropriate module, approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

In addition, he/she must complete at least three (12 MCs) of the following modules:

- CE5207 Pavement Network Management Systems
- CE5604 Advanced Concrete Technology
- CE5610 Assessment and Retrofit of Concrete Structures
- CE5611 Precast Concrete Technology
- CE5880 Topics in Project Management Engineering
- CE6001 Operations and Management of Infrastructure Systems
- PM5104 Development Management
- PM5105 Development Finance
- IE5122 Statistical Quality Control
- IE5208 Systems Approach to Project Management
- IE5404 Large Scale Systems Engineering
- CN5191 Project engineering
- SH5201 Hazard Identification and Evaluation Techniques
- SH5401 SHE and Quality Management Systems

The remaining two modules (8 MCs) to satisfy the degree requirements may be selected from Level 5000 and 6000 modules offered by the Department of Civil & Environmental Engineering, which also include the above mentioned modules. For modules offered by other Departments (except those listed above), prior approval must be sought from the Head, Department of Civil & Environmental Engineering or his nominee.

Finally, students must ensure that at least five (20 MCs) of the ten modules to be counted for this specialization must be those offered by the Department of Civil & Environmental Engineering (i.e. with the CE prefix in the module code).