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 distinct 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 elective 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
- PM5105  Development Finance
- PM5114  Managing Complex Projects
- 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).