4.2.13.2 Degree Requirements

The Master of Science (Safety, Health and Environmental Technology) course, or MSc (SHE), is hosted by the Department of Chemical and Biomolecular Engineering. The programme accepts both full time and part time students. To qualify for the MSc (SHE) degree with or without an area of specialization, a candidate must successfully complete a programme of study consisting of at least 40 Modular Credits (MCs). In addition, a student must obtain a minimum CAP of 3.00 (Grade B-) for the best modules equivalent to 40 MCs (inclusive of compulsory modules, where required). A student may choose to graduate with one of the following:

- MSc (SHE)
- MSc (SHE) with specialisation in Industrial Hygiene
- MSc (SHE) with specialisation in Process Safety

Programme course modules are presented in the following four groups

Foundation Modules

SH5002  Fundamentals in Industrial Safety
SH5003  Fundamentals in Environmental Protection
SH5101  Industrial Toxicology
SH5108  Chemical Hazard Management

Core Modules in Industrial Hygiene

SH5102  Occupational Ergonomics
SH5104  Occupational Health
SH5105  Noise and Other Physical Agents
SH5106  Radiation
SH5107  Industrial Ventilation
SH5109  Biostatistics and Epidemiology
SH5110  Chemical Hazard Evaluation

Core Modules in Process Safety

SH5201  Hazard Identification and Evaluation
SH5202  Quantified Risk Analysis
SH5203  Emergency Planning
SH5204  Safety Engineering
SH5205  Incident Management
SH5206  Human Factors in Process Safety
SH5401  SHE and Quality Management Systems OR
ESE5602 Environmental Management Systems

Elective Modules

SH5402  Advanced SHE Management
SH5403  Independent Study
SH5404  Safety Health and Environmental Project
ESE5202 Air Pollution Control Technology
ESE5204 Toxic and Hazardous Waste Management
ESE5205 Sludge and Solid Waste Management
ESE5402 Industrial Wastewater Control
ESE5403 Water Reclamation & Reuse
ESE5603 Pollution Minimization and Prevention
SH5880  Topics in Industrial Hygiene
SH5881  Topics in Process Safety
SH5882  Topics in Environment Protection

All modules are worth 4 MCs each except SH5404 Safety Health & Environmental Project which is worth 8 MCs.

Not all modules are necessarily available in any one year.

To be awarded with a specialisation, the student must also meet the requirements for that specialisation as stipulated below.

**MSc (SHE) without specialisation**

A candidate (full-time and part-time) must successfully complete a programme of study consisting of:

a) the 4 foundation modules listed in part (i) Foundation Modules, and
b) any 6 modules from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, (iv) Elective Modules and/or any other 2 modules subjected to the approval of the Department.

Depending on the background of the candidate, the Department may allow the waiver of foundation modules on a case-by-case basis. In such instances, the candidate must make up for these modules from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, (iv) Elective Modules and/or other modules subjected to the approval of the Department.

**MSc (SHE) with specialisation in Industrial Hygiene**

A candidate (full-time and part-time) must successfully complete a programme of study consisting of:
a) the 4 foundation modules listed in part (i) Foundation Modules,
b) any 5 modules from part (ii) Core Modules in Industrial Hygiene, and
c) any 1 module from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, or (iv) Elective Modules, or any other module subjected to the approval of the Department.

Depending on the background of the candidate, the Department may allow the waiver of foundation modules on a case-by-case basis. In such instances, the candidate must make up for these modules from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, (iv) Elective Modules and/or other modules subjected to the approval of the Department.

**MSc (SHE) with specialisation in Process Safety**

A candidate (full-time and part-time) must successfully complete a programme of study consisting of:
a) the 4 foundation modules listed in part (i) Foundation Modules,
b) any 5 modules from part (iii) Core Modules in Process Safety, and
c) any 1 module from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, or (iv) Elective Modules or any other module subjected to the approval of the Department.

Depending on the background of the candidate, the Department may allow the waiver of foundation modules on a case-by-case basis. In such instances, the candidate must make up for these modules from part (ii) Core Modules in Industrial Hygiene, (iii) Core Modules in Process Safety, (iv) Elective Modules and/or other modules subjected to the approval of the Department.