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 three groups.

**Elective Modules in Industrial Hygiene**
- SH5101 Industrial Toxicology
- SH5102 Occupational Ergonomics
- SH5104 Occupational Health
- SH5105 Noise and Other Physical Agents
- SH5106 Radiation
- SH5107 Industrial Ventilation
- SH5108 Chemical Hazard Management
- SH5109 Biostatistics and Epidemiology
- SH5110 Chemical Hazard Evaluation

**Elective Modules in Process Safety**
- SH5002 Fundamentals in Industrial 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**
- SH5003 Fundamentals in Environmental Protection
- 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) any 8 modules from part (i) Elective Modules in Industrial Hygiene, (ii) Elective Modules in Process Safety, or (iii) Elective Modules, and

b) any 2 modules from part (i) Elective Modules in Industrial Hygiene, (ii) Elective Modules in Process Safety, (iii) Elective Modules or any 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) any 6 modules from part (i) Elective Modules in Industrial Hygiene, and

b) any 4 modules from part (i) Elective Modules in Industrial Hygiene, (ii) Elective Modules in Process Safety, (iii) Elective Modules, and/or any other 2 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) any 6 modules from part (ii) Elective Modules in Process Safety, and

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