

Degree Requirements of MSc (Safety, Health and Environmental Technology) ***(for cohorts AY2019/2020 to AY2020/2021)***

The Master of Science (Safety, Health and Environmental Technology) Degree programme, 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, a candidate must successfully complete a programme of study consisting of at least 40 Units. Of the 40 Units, at least 30 Units must be at graduate level within the stipulated SHE Elective Courses or in a related discipline, the remaining units may be from other levels in the same or other disciplines as approved by the Department. In addition, a student must obtain a minimum GPA of 3.0 (Grade B-) for the best courses equivalent to 40 Units. A student may choose to graduate with one of the following:

- MSc (SHE) Degree;
- MSc (SHE) Degree with specialisation in Industrial Hygiene; or
- MSc (SHE) Degree with specialisation in Process Safety.

Courses for the MSc (SHE) Degree Programme *

Programme courses are presented in the following three groups.

(i) Industrial Hygiene Elective Courses

SH5004	Fundamentals in Industrial Hygiene
SH5101	Industrial Toxicology
SH5102	Occupational Ergonomics
SH5103	Biosafety and Biosecurity
SH5104	Occupational Health
SH5105	Noise and Other Physical Hazards
SH5106	Radiation Safety
SH5107	Industrial Ventilation
SH5108	Chemical Hazard Management
SH5109	Biostatistics and Epidemiology
SH5110	Chemical Hazard Evaluation

(ii) Process Safety Elective Courses

SH5001	Fundamentals in Process Safety
SH5002	Fundamentals in Industrial Safety
SH5201	Process Hazard Analysis <i>(name change effective Sem 1, AY2022/2023)</i>
SH5202	Quantified Risk Analysis
SH5203	Resilience and Emergency Planning
SH5204	Industrial Safety Engineering
SH5205	Crisis and Incident Management
SH5206	Human Factors in Process Safety
SH5207	Process Safety Engineering
SH5208	Functional Safety for Process Industries
SH5209	Process Safety Digitalization [#]
SH5401	Safety, Health, Environment & Quality Management System (or ESE5602 Environmental Management Systems)

(iii) General Elective Courses

SH5003	Fundamentals in Environmental Protection
SH5005	Risk Analysis & Safety Analytics
SH5402	Safety Leadership and Management Practices <i>(name change effective Sem 1, AY2023/2024)</i>
SH5403	Independent Study [#]
SH5404	Safety Health and Environmental Project (8 Units) [#]
SH5405	Fire and Explosion Safety
SH5406	Research Methodology [#]
SH5407	Sustainable Energy and Environment

SH5408	Electrical Safety
SH5409	Sustainability & Environmental Analysis (<i>coming soon</i>)
SH5666	Industrial Safety, Health and Environmental Practices (8 Units) [#]
SH5880	Topics in Industrial Hygiene
SH5881	Topics in Process Safety
SH5882	Topics in Environmental Protection
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

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

MSc (SHE) Degree

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

- at least 3 courses from (i) Industrial Hygiene Elective Courses,
- at least 3 courses from (ii) Process Safety Elective Courses, and
- any remaining courses from part (i) Industrial Hygiene Elective Courses, (ii) Process Safety Elective Courses, (iii) General Elective Courses, and up to 2 other courses subjected to the approval of the Department.

MSc (SHE) Degree with specialisation in Industrial Hygiene

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

- at least 6 courses from part (i) Industrial Hygiene Elective Courses,
- at least 2 courses from (ii) Process Safety Elective Courses, and
- any remaining courses from part (i) Industrial Hygiene Elective Courses, (ii) Process Safety Elective Courses, (iii) General Elective Courses, and up to 2 other courses subjected to the approval of the Department.

MSc (SHE) Degree with specialisation in Process Safety

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

- at least 6 courses from part (ii) Elective Courses in Process Safety,
- at least 2 courses from (i) Industrial Hygiene Elective Courses, and
- any remaining courses from part (i) Industrial Hygiene Elective Courses, (ii) Process Safety Elective Courses, (iii) General Elective Courses, and up to 2 other courses subjected to the approval of the Department.

Note: All courses are worth 4 Units each except SH5404 and SH5666 are worth 8 Units.

** Not all courses are necessary available in any one year.*

[#] 100% Continuous Assessment course (no final exam)