

Degree Requirements of MSc (Safety, Health and Environmental Technology)

(for cohorts Sem 2, AY2022/2023 and retrospective intakes)

The Master of Science (Safety, Health and Environmental Technology) Degree programme, or MSc (SHE), is hosted by the Department of Chemical and Biomolecular Engineering. To qualify for the MSc (SHE) Degree with or without specialisation, a candidate must complete a programme of study consisting of at least 40 Units. 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 General Practice Specialisation
- MSc (SHE) Degree with Industrial Hygiene Specialisation
- MSc (SHE) Degree with Process Safety Specialisation

Courses for the MSc (SHE) Degree Programme*

Programme courses are presented in the following three groups.

(i) General Practice Courses

SH5002	Fundamentals in Industrial Safety
SH5003	Fundamentals in Environmental Protection [^]
SH5005	Risk Analysis and Safety Analytics
SH5108	Chemical Hazard Management
SH5204	Industrial Safety Engineering
SH5402	Safety Leadership and Management Practices
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 and Environmental Analysis ⁺
SH5666	Industrial Safety, Health and Environmental Practices (8 Units) [#]
SH5882	Topics in Environmental Protection

(ii) Industrial Hygiene 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
SH5109	Biostatistics and Epidemiology
SH5110	Chemical Hazard Evaluation
SH5880	Topics in Industrial Hygiene

(iii) Process Safety Courses

SH5001	Fundamentals in Process Safety
SH5201	Process Hazard Analysis
SH5202	Quantified Risk Analysis
SH5203	Resilience and Emergency Planning
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
SH5881	Topics in Process Safety

The MSc (SHE) Degree graduation requirements are stipulated below:

MSc (SHE) Degree

A candidate must successfully complete a programme of study consisting of 10 courses or 40 Units of courses listed in the degree requirement.

MSc (SHE) Degree with General Practice Specialisation

A candidate must successfully complete a programme of study consisting of 10 courses or 40 Units with at least 24 Units from (i) General Practice Courses.

MSc (SHE) Degree with Industrial Hygiene Specialisation

A candidate must successfully complete a programme of study consisting of 10 courses or 40 Units with at least 24 Units from (ii) Industrial Hygiene Courses.

MSc (SHE) Degree with Process Safety Specialisation

A candidate must successfully complete a programme of study consisting of 10 courses or 40 Units with at least 24 Units from (iii) Process Safety Courses.

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.*

***In the event student(s) cannot meet the new requirements, we will refer to the older requirements based on their respective cohort.*

100% Continuous Assessment courses (no final exam)

^ Courses that are also offered to BEng (Chem Eng) undergraduate students

+ Courses that are also offered to MSc Energy System graduate students