

FACULTY OF ENGINEERING

FACULTY PROGRAMMES

SUSTAINABLE ENGINEERING

Master of Science in Sustainable Engineering
Postgraduate Diploma in Sustainable Engineering
Postgraduate Certificate in Sustainable Engineering

Advanced Construction Technologies and Building Information Management
Chemical Processing
Marine Technology
Offshore Renewable Energy
Renewable Energy Systems and the Environment

Postgraduate programmes offered within the Faculty Programme in Sustainable Engineering have a common overall structure where award of qualifications depends upon the pursuance of a named distinct pathway.

These regulations are to be read in conjunction with [General Academic Regulations Postgraduate Taught Degree Programme Level](#).

Admission

1. See [General Academic Regulations - Postgraduate Taught Degree Programme Level](#).

Mode of Study

2. The programmes are available by full-time and part-time study.

Programme Structure

3. The following distinct pathways are named postgraduate awards in Sustainable Engineering of the Faculty of Engineering:
 - i. Advanced Construction Technologies and Building Information Management
 - ii. Chemical Processing
 - iii. Marine Technology
 - iv. Offshore Renewable Energy
 - v. Renewable Energy Systems and the Environment

Curriculum

4. All students shall undertake an approved curriculum as follows:
 - i. for the Postgraduate Certificate no fewer than 60 credits including AB975 Sustainability
 - ii. for the Postgraduate Diploma no fewer than 120 credits including AB975 Sustainability and EF936 Sustainable Engineering Group Project
 - iii. for the degree of MSc no fewer than 180 credits including EF900 Individual Project

Sustainable Engineering: Advanced Construction Technologies and Building Information Management

Compulsory Modules

Module Code	Module Title	Level	Credits
AB975	Sustainability	5	10

AB991	Building Information Management	5	10
AB998	Advanced Construction Technologies	5	10

Students for the degree of MSc and Postgraduate Diploma will undertake:

Module Code	Module Title	Level	Credits
EF936	Sustainable Engineering Group Project	5	40

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
EF900	Individual Project	5	60

Optional Modules

Students shall undertake no fewer than 50 credits of optional modules from List A or the Faculty-wide modules listed in section 5 below.

List A

Module Code	Module Title	Level	Credits
AB992	Contract Administration and Practice	5	10
AB995	Facilities Management	5	10

Not all optional modules in these lists will be available in each academic year.

Sustainable Engineering: Chemical Processing

Module Code	Module Title	Level	Credits
AB975	Sustainability	5	10

Students for the degree of MSc and Postgraduate Diploma will undertake:

Module Code	Module Title	Level	Credits
EF936	Sustainable Engineering Group Project	5	40

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
EF900	Individual Project	5	60

Students must also choose an additional 70 credits, which must include a minimum of 10 credits from List A, 30 credits from List B and 20 credits from the Faculty-wide modules listed in section 5 below.

List A

Module Code	Module Title	Level	Credits
CP917	Process Design Principles	5	10
CP974	Advanced Process Design	5	20

List B

Module Code	Module Title	Level	Credits
CP527	Petroleum Engineering	5	10
CP538	Environmental Engineering for Solving Industrial Challenges	5	10
CP530	Safety Management Practices	5	10
CP529	Programming and Optimisation	5	10
CP523	Molecular Simulation in Chemical Engineering	5	10
CP537	Electrochemical Energy Devices	5	10
CP533	Clean Combustion Technologies	5	10

Not all optional modules in these lists will be available in each academic year.

Sustainable Engineering: Marine Technology

Compulsory Modules*

Module Code	Module Title	Level	Credits
AB975	Sustainability	5	10
NM961	Design and Construction of FPSOs	5	10
NM950	Maritime Safety and Risk	5	10
NM958	Risers and Mooring Lines	5	10
NM962	Advanced Marine Structures	5	10
NM963	Theory and Practice of Marine CFD	5	10

*Exceptionally, such other modules totalling no more than 20 credits, as approved by the Programme Leader. Students who have previously completed any module from the list of compulsory modules will be required to undertake an appropriate alternative as approved by the Programme Leader.

Students for the degree of MSc and Postgraduate Diploma will undertake:

Module Code	Module Title	Level	Credits
EF936	Sustainable Engineering Group Project	5	40

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
EF900	Individual Project	5	60

Optional Modules

Students shall undertake 20 credits from the Faculty-wide modules listed in section 5 below.

Sustainable Engineering: Offshore Renewable Energy

Compulsory Modules*

Module Code	Module Title	Level	Credits
AB975	Sustainability	5	10
NM960	Finite Element Analysis of Floating Structures	5	10
NM969	Renewable Marine Energy Systems	5	10
NM978	Physical Testing of Offshore Renewable Devices	5	10
ME929	Electrical Power Systems	5	10
ME927	Energy Resources and Policy	5	10

*Exceptionally, such other modules totalling no more than 20 credits, as approved by the Programme Leader. Students who have previously completed any module from the list of compulsory modules will be required to undertake an appropriate alternative as approved by the Programme Leader.

Students for the degree of MSc and Postgraduate Diploma will undertake:

Module Code	Module Title	Level	Credits
EF936	Sustainable Engineering Group Project	5	40

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
EF900	Individual Project	5	60

Optional Modules

Students shall undertake 20 credits from the Faculty-wide modules listed in section 5 below.

Sustainable Engineering: Renewable Energy Systems and the Environment

Compulsory Modules

Module Code	Module Title	Level	Credits
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AB975	Sustainability	5	10
ME929	Electrical Power Systems	5	10
ME927	Energy Resources and Policy	5	10
ME928	Energy Systems Analysis	5	10
ME930	Energy Modelling and Monitoring	5	10

Students for the degree of MSc and Postgraduate Diploma will undertake:

Module Code	Module Title	Level	Credits
EF936	Sustainable Engineering Group Project	5	40

Students for the degree of MSc only:

Module Code	Module Title	Level	Credits
EF900	Individual Project	5	60

Optional Modules

Students shall undertake 30 credits from either the Faculty-wide modules listed in section 5 below or suitable alternative modules to be approved by the appropriate program leader.

5. Faculty-wide Modules

Module Code	Module Title	Level	Credits
EF929	Financial Engineering	5	10
EF927	Design Management	5	10
EF931	Project Management	5	10
EF932	Risk Management	5	10
EV939	Environmental Impact Assessment	5	10
EF945	Knowledge and Information Management	5	10

Not all optional modules on this list will be available in each academic year.

Examination, Progress and Final Assessment

- See [General Academic Regulations - Postgraduate Taught Degree Programme Level](#).
- The final award will be based on performance in the examinations, coursework, and the Individual Project where undertaken.

Award

- Degree of MSc:** In order to qualify for the award of the degree of MSc in Sustainable Engineering: in a distinct pathway, a candidate must have performed to the satisfaction

of the Board of Examiners and must have accumulated no fewer than 180 credits, of which 60 must have been awarded in respect of the Individual Project.

9. **Postgraduate Diploma:** In order to qualify for the award of the Postgraduate Diploma in Sustainable Engineering: in a distinct pathway, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 120 credits from the taught programme curriculum.
10. **Postgraduate Certificate:** In order to qualify for the award of the Postgraduate Certificate in Sustainable Engineering: in a distinct pathway, a candidate must have performed to the satisfaction of the Board of Examiners and must have accumulated no fewer than 60 credits from the taught programme curriculum.