PROGRAME DETAILS
Programme Code: B411-CEN
Department: Chemical Engineering
Main Award: BENGH - Bachelor of Engineering Hon
Full Award Title: Bachelor of Engineering in Chemical Engineering
Level: Undergraduate

LOCATION OF STUDY

<table>
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<th></th>
<th>Edinburgh</th>
<th>Scottish Borders</th>
<th>Orkney</th>
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ASSOCIATED AWARDS

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<td>Bachelor of Engineering in Chemical Engineering</td>
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<tr>
<td>B411-ZZZ</td>
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ACCREDITATION

Currently accredited by the Institution of Chemical Engineers (IChemE) at the Edinburgh campus only. Accreditation will be sought for the Malaysia campus in 2019 and for the Dubai campus at a later date.

LEARNING OUTCOMES – SUBJECT MASTERY

Understanding, Knowledge and Cognitive Skills

- Knowledge and understanding of underlying scientific and mathematical principles as applied to Chemical Engineering
- Fundamental facts, concepts, theories and principles of core chemical engineering subject areas (fluid mechanics, thermodynamics, heat and mass transfer, process control, reaction engineering, safety and environment, process design)
- Familiarity with the application of relevant computer tools.
- Fundamentals of mathematics and science, particularly chemistry and biology, as applicable to Chemical Engineering.
- The ethics and standards relevant to professional engineering practice, particularly implementation of safety and environmental protection.
- Environmental, legal, regulatory and safety issues relevant to the Chemical Engineering profession.

Economic and commercial aspects of current Chemical Engineering practice

Scholarship, Enquiry and Research (Research Informed Learning)
LEARNING OUTCOMES – PERSONAL ABILITIES

Industrial, Commercial and Professional Practice

- Awareness of range of industries associated with Chemical Engineering.
- Knowledge of industry-specific design techniques and software packages.
- Awareness of economic and commercial aspects of business.
- Appreciation of ethical responsibilities, including process safety, sustainability and environmental protection.

Autonomy, Accountability and Working With Others

- Ability to undertake Library and internet research to source information.
- Ability to plan work and deliver to deadlines.
- Experience of working in a team to achieve team goals (particularly through design and laboratory work).

Communication, Numeracy & Information and Communications Technology

- Written communication through laboratory and project reports.
- Verbal communication through formal presentations, supported by PowerPoint or other visual aids.
- Ability to apply mathematical techniques for problem solving.
- Familiarity with Microsoft Office applications, including Word and Excel.
- Familiarity with industry standard specialist computer packages such as Aspen, HYSYS, MatLab

APPROACHES TO TEACHING AND LEARNING

The overall approach in the course to teaching and learning is a student-centred one, which is designed to encourage students to take increasing responsibility for their own learning and development as the course progresses. The main focus is on active learning through experimentation and design.
The requisite competencies related to Subject Mastery are acquired and developed through lectures, tutorials, group work, case studies, design projects and research projects (Stages Three to Four). The practical component of each course reinforces the development of subject-specific skills through a combination of projects, laboratory work, computer-based design packages and applications and industrial visits.

Personal Abilities are developed primarily through, for example, tutorials, group and individual projects, presentations and industrial visits. Such skills are developed throughout the course. The option of a 10-month industrial placement (leading to the Diploma in Industrial Training) and vacation placements provide further opportunities to develop Personal Abilities.

Approaches to teaching and learning are continually reviewed and developed with the aim of matching them to the abilities and experiences of students, with regard also for the subject area. Specific details about teaching and learning methods are provided in the appropriate module descriptors.

**EDUCATIONAL AIMS OF THE PROGRAMME**

- Produce graduates with the technical, scientific and managerial abilities associated with a professional Chemical Engineer.
- Provide a specialist education with enables graduates to undertake a wide range of technical and managerial careers across the sector, e.g. process and plant design, construction, commissioning, operation, management to specialist consultancy and advanced research and development.
- Allow students to develop problem solving skills.
- Foster the development of personal qualities and professional competencies expected of a Chartered Chemical Engineer.
- Provide students with opportunity to transfer to one of the advanced MEng Chemical Engineering courses during stages one to three, as their interests and aspirations develop.

Offer an educational environment which satisfies the academic requirements for Chartered Engineer status and membership of the IChemE.

**ASSESSMENT POLICIES**

The assessment policy for the course incorporates a range of assessment types. Formative tests may be scheduled during courses to provide feedback on performance and to inform further development. Continuous assessment during modules and summative assessment at the conclusion of modules both contribute to the overall assessment and are used to measure achievement in specified learning outcomes formally.

Understanding, knowledge and subject-specific skills are assessed by a variety of means such as class tests, laboratory exercises, coursework assignments, unseen written examinations, laboratory reports, group and individual projects and presentations. Personal Abilities are reviewed primarily by site visit reports, transferable skills and laboratory exercises, performance in presentations, projects. Other skills are not formally assessed. Approaches to assessment are continually reviewed. Specific details about methods of assessment are provided in the appropriate module descriptors.
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<thead>
<tr>
<th>Stage</th>
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### Optional Courses

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### COMPOSITION AND STAGE NOTES (UG)

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### Stage 4
- 8 mandatory courses

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### Stage 5
- Mandatory Credits 5
- Optional Credits 5
- Elective Credits 5
- Total 5 0

### ASSESSMENT AND PROGRESSION (UG)
#### Reassessment Opportunities
1. A student who has been awarded a Grade E or a Grade F in a course may be re-assessed in that course.
2. A student shall be permitted only one re-assessment opportunity to be taken at the Resit diet of examination following the first assessment of the course.
3. A student shall not be re-assessed in any qualifying course taken in the final stage of a course of study.
4. The Progression Board may permit a student to be re-assessed in any qualifying course not taken in the final stage in order to gain credits for the course, provided that the mark or grade obtained in the first assessment of any such course is used in determining the classification of the degree to be awarded.

#### Progression Requirements
**Part A.** The minimum number of credits required to progress through each stage are as follows
- Stage 1 to 2 90
- Stage 2 to 3 210
- Stage 3 to 4 360
- Stage 4 to 5 N/A

**Part B.** The minimum grade of D is required in the following courses
- **Stage 1**
  - Each Chemical Engineering, EPS Mathematics and Chemistry module.
- **Stage 2**
  - Each Chemical Engineering, EPS Mathematics and Chemistry module.
- **Stage 3**
  - Each Chemical Engineering module
- **Stage 4** N/A

### AWARDS, CREDITS AND LEVEL (UG)
#### Part A. Credit Requirements
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<th>Overall Credits</th>
<th>Specific Requirements</th>
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<td>Integrated Masters</td>
<td>600</td>
<td>600 SCQF credits including a minimum of 120 credit at Level 11</td>
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<td>Honours Degree (inc.MA)</td>
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### Part B. Mark/Grade Requirements

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<th>Degree Type</th>
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<td>Integrated Masters</td>
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<td>Honours Degree (inc.MA)</td>
<td>&gt;=40%</td>
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<td>1st: Credit Weighted Average &gt;=70% over all qualifying courses at grades A-D. 2.1: Credit Weighted Average &gt;=60% over all qualifying courses at grades A-D. 2.2: Credit Weighted Average &gt;=50% over all qualifying courses at grades A-D. 3rd: Credit Weighted Average &gt;=40% over all qualifying courses at grades A-D.</td>
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<tr>
<td>Ordinary or General Degree</td>
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<td>Minimum of grade D in all pre-requisite courses.</td>
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<td>Minimum of grade D in all pre-requisite courses.</td>
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### DURATION OF STUDY

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