PROGRAMME DETAILS
Programme Code: D2A1-CEI
Department: Civil Engineering
Main Award: MENG - Master of Engineering
Full Award Title: Master of Engineering in Civil Engineering with International Studies
Level: Undergraduate

LOCATION OF STUDY
<table>
<thead>
<tr>
<th>Edinburgh</th>
<th>Y</th>
<th>Scottish Borders</th>
<th>N</th>
<th>Orkney</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubai</td>
<td>N</td>
<td>Malaysia</td>
<td>N</td>
<td>Approved Learning Partner</td>
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<td>Independent Distance Learners</td>
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ASSOCIATED AWARDS
<table>
<thead>
<tr>
<th>Programme Code</th>
<th>Award</th>
<th>Title</th>
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<tbody>
<tr>
<td>D211-ZZZ</td>
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<tr>
<td>D2A1-CEI</td>
<td>MENG</td>
<td>Master of Engineering in Civil Engineering with International Studies</td>
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</tbody>
</table>

ACCREDITATION
Joint Board of Moderators of Institution of Civil Engineers and Institution of Structural Engineers

LEARNING OUTCOMES – SUBJECT MASTERY
Understanding, Knowledge and Cognitive Skills
fundamentals of the main civil engineering disciplines (structures, water engineering, geotechnics, highway engineering) and associated technologies.
• management and business practices which form the basis of modern civil engineering management.
• fundamentals of Mathematics and Science as applicable in the context of civil engineering.
• comprehensive understanding and knowledge of the concepts, principles and theories of specialist technical issues, as selected by the student to meet their professional aspirations.
• transfer problem-solving skills to a variety of contexts
• integrate theory and practice
• apply numerical, scientific and management skills

Scholarship, Enquiry and Research (Research Informed Learning)
conduct and analyse results from laboratory exercises relevant to the science of engineering
• ability to plan, conduct and report a self directed research project
• transfer problem-solving skills to a variety of contexts
• apply numerical skills and engineering knowledge in the analysis of a novel problem.
• integrate theory and practice

LEARNING OUTCOMES – PERSONAL ABILITIES
Industrial, Commercial and Professional Practice
• appreciate the roles of the Civil/Structural Engineer in the construction of the Built Environment
• appreciate the roles of other professions in the Built Environment.
• systems planning and structural design, using British and International Standard codes of practice.
management and business practices which form the basis of modern civil engineering management.
- the ethics and standards relevant to professional engineering practice.
- framework and practice with regard to health and safety

**Autonomy, Accountability and Working With Others**

- work effectively within a small team.
- interact constructively with other professions in the Built Environment in a multi-disciplinary team
- the social and environmental impact of civil engineering (MEng).
- Experience an international perspective on engineering and engineering education

**Communication, Numeracy & Information and Communications Technology**

- clearly and concisely report results from laboratory and desk study investigations relevant to the science of engineering
- apply IT and specialist software to analysis and design of civil and structural engineering artefacts.
- present and defend outcomes from a self-directed research project
- present and defend outcomes from a design project
- CV preparation

**APPROACHES TO TEACHING AND LEARNING**

The overall approach in the programme 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 programme progresses.

The requisite competencies related to Subject Mastery are acquired and developed through lectures, tutorials, group work and laboratory exercises, supplemented by case studies and industrial projects. The practical component of the programme reinforces the development of subject-specific skills through a combination of design projects, laboratory work, computer-based learning and design packages, a programme of site and field visits and industrial experience. Resources such as web-based materials are used to enhance lecture and practical programmes.

Personal Abilities are developed primarily through the Personal Development Programme. During the programme PDP moves gradually away from a staff-structured discipline and increasingly becomes student-determined. PDP is structured around individual professional development portfolios and is developed by, for example, seminars, workshops, student-led seminars, small group meetings, one-to-one sessions, self study projects and practical experience. Communication skills are developed as a course in Stage One, but such skills are reinforced throughout the programme, as part of PDP and activities such as project and design work presentations to staff, students and practising engineers.
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 course descriptors.

The interaction between the CE disa[ilne programmes may be explained as follows:

- **CE** – A student on a degree with breadth and depth in Y1-Y3 which allows students to choose to specialise in structures, materials (inc Geotechnics), environmental engineering (inc water), etc in Y4 & Y5.
- **SE** – A CE who has chosen to specialise in structural engineering.
- **CEE** – A CE who has chosen to specialise in environmental engineering.
- **SEAD** - A CE who has chosen to specialise in structural engineering and AD.
- **This structure confirms both SE & CEE as niches of civil engineering**

**EDUCATIONAL AIMS OF THE PROGRAMME**

The programme aims to:

- provide students with a broad understanding of a wide range of aspects of the built environment
- equip students with a sound basis in fundamental engineering principles and their application in the context of design and analysis.
- match a professional and technical education to the needs and aspirations of individuals.
- produce high quality graduates with the understanding, knowledge, skills and personal qualities required to undertake a wide range of careers across the construction industry in building, general contracting, consultancy or advanced research.
- develop problem-solving and conceptual skills and the ability to apply such skills to solve real design and decision problems.
- enable students to undertake complex engineering projects of a multidisciplinary nature and of direct relevance to industry.
- encourage awareness of the engineering industry and the development of professional competencies through the Professional Development Programme.
- ensure students have an awareness of the importance of safety in construction, the methodologies for addressing it and the legislative framework for its enforcement.
- provide a thorough grounding in principles of sustainability, an understanding of approaches to minimise environmental impact, and the means of estimating such impacts.
- provide students with the opportunity to transfer between any of the Department's programmes during years one or two, as their interests and aspirations develop.
- offer an educational environment which satisfies academic requirements for Chartered Engineer status and Membership of The Institution of Civil Engineers.
- enable suitably qualified students to undertake a period of study through an appropriate organisation in Europe or North America.
ASSESSMENT POLICIES

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

Understanding, knowledge and subject-specific skills are assessed by a variety of means such as web-based tests (multiple-choice and short-answer), coursework assignments, unseen written examinations, laboratory reports, group and individual projects and presentations.

Personal Abilities are reviewed by interviews based on individual professional development portfolios, self-assessment, performance review sessions and appraisal interviews which provide feedback on performance and assessment.

Approaches to assessment are continually reviewed. Specific details about methods of assessment are provided in the appropriate course descriptors.

PROGRAMME STRUCTURE

Mandatory Courses

<table>
<thead>
<tr>
<th>Edinburgh</th>
<th>SBC</th>
<th>Orkney</th>
<th>Dubai</th>
<th>HWUM</th>
<th>IDL</th>
<th>ALP</th>
<th>Other</th>
<th>Stage</th>
<th>Semester</th>
<th>Course Code</th>
<th>Course Title</th>
<th>SCQF Cr</th>
<th>SCQF Lvl</th>
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<td>D27CA</td>
<td>Civil Engineering Applications 1</td>
<td>15</td>
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<td>D27MA</td>
<td>Mechanics A</td>
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<td>D37TA</td>
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<td>F17XA</td>
<td>Mathematics for Engineers and Scientists 1</td>
<td>15</td>
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<td>D27IM</td>
<td>Introduction to Materials</td>
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<td>D28DS</td>
<td>Analysis of Determinate Structures</td>
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### D2A1-CEI Master of Engineering in Civil Engineering with International Studies

<table>
<thead>
<tr>
<th>Semester</th>
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<th>Course Title</th>
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<th>SCQF Lvl</th>
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<td>D28HA</td>
<td>Hydraulics &amp; Hydrology A</td>
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<td>Surveying and Monitoring in the Built and Natural Environment</td>
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<td>F18XC</td>
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<td>1</td>
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<td>D28DE</td>
<td>Design Studies A-Problem Solving</td>
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<td>D28MA</td>
<td>Civil Engineering Materials</td>
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<td>D28SA</td>
<td>Stress Analysis and Element Strength</td>
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<td>Geology and Soil Properties</td>
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<td>Design of Steel Elements</td>
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<td>Transport Design, Infrastructure and Society</td>
<td>15</td>
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<td>Design of Concrete Elements</td>
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<td>Environmental Engineering A</td>
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<td>Geotechnics A - Introduction to Soil Mechanics</td>
<td>15</td>
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<td>Year Abroad (Design Component)</td>
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<td>Year Abroad (Technical Component)</td>
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<td>Dissertation - International Studies (Civil Eng Programme) (S1)</td>
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### Optional Courses

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>SCQF Cr</th>
<th>SCQF Lvl</th>
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<tbody>
<tr>
<td>D21EH</td>
<td>Environmental Hydrology and Water Resources</td>
<td>15</td>
<td>11</td>
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<tr>
<td>D21EQ</td>
<td>Structural Dynamics and Earthquake Engineering</td>
<td>15</td>
<td>11</td>
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<tr>
<td>D21GG</td>
<td>Ground Engineering</td>
<td>15</td>
<td>11</td>
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<td>D21HM</td>
<td>Human Factors Methods</td>
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<td>11</td>
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<td>D21RV</td>
<td>Computer Simulation of River Flows</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>D21SD</td>
<td>Stability and Dynamics</td>
<td>15</td>
<td>11</td>
</tr>
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<td>D21SM</td>
<td>Structural Materials</td>
<td>15</td>
<td>11</td>
</tr>
<tr>
<td>D31PT</td>
<td>Project Management: Theory and Practice</td>
<td>15</td>
<td>11</td>
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<tr>
<td>D31VR</td>
<td>Value and Risk Management</td>
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<td>11</td>
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<td>D11DC</td>
<td>Design of Low Carbon Buildings</td>
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### D2A1-CEI Master of Engineering in Civil Engineering with International Studies

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>D21FB</td>
<td>Finite Element Method Nonlinear Analysis</td>
<td>15</td>
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<tr>
<td>D21FM</td>
<td>Flood Inundation Modelling</td>
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<td>D21MS</td>
<td>Statistical Modelling of the Environment</td>
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<tr>
<td>D21SR</td>
<td>Safety, Risk and Reliability</td>
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<tr>
<td>D21UD</td>
<td>Urban Drainage and Water Supply</td>
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<tr>
<td>D31CG</td>
<td>Construction Financial Management</td>
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</tr>
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<td>D31PS</td>
<td>Project Management; Strategic Issues</td>
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<td>D41PE</td>
<td>Environmental Planning</td>
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#### ELECTIVES (UG)

<table>
<thead>
<tr>
<th>Stage</th>
<th>Taught Courses</th>
<th>Mandatory Credits</th>
<th>Optional Credits</th>
<th>Elective Credits</th>
</tr>
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<tbody>
<tr>
<td>Stage 1</td>
<td>8</td>
<td>120</td>
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<tr>
<td>Stage 2</td>
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#### COMPOSITION AND STAGE NOTES (UG)

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<th>Mandatory Credits</th>
<th>Optional Credits</th>
<th>Elective Credits</th>
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<tbody>
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<tr>
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<td>Stage 4</td>
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</table>
### 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

<table>
<thead>
<tr>
<th>Stage</th>
<th>Minimum Credits</th>
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</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>90 credits (6 courses)</td>
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<tr>
<td>2 to 3</td>
<td>210 credits (14 courses)</td>
</tr>
<tr>
<td>3 to 4</td>
<td>360 credits (24 courses)</td>
</tr>
<tr>
<td>4 to 5</td>
<td>480 credits (32 courses)</td>
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</table>

**Part B.** The minimum grade of D is required in the following courses

<table>
<thead>
<tr>
<th>Stage</th>
<th>Requirement</th>
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<tbody>
<tr>
<td>Stage 1</td>
<td>A minimum of 6 C grades and 2 D grades</td>
</tr>
<tr>
<td>Stage 2</td>
<td>A minimum of 6 C grades and 2 D grades</td>
</tr>
<tr>
<td>Stage 3</td>
<td>All courses at D grade in Level 3</td>
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<tr>
<td>Stage 4</td>
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### AWARDS, CREDITS AND LEVEL (UG)

**Part A. Credit Requirements**

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Overall Credits</th>
<th>Specific Requirements</th>
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</thead>
<tbody>
<tr>
<td>Integrated Masters</td>
<td>600</td>
<td>600 SCQF credits including a minimum of 120 credit at Level 11</td>
</tr>
<tr>
<td>Honours Degree (inc.MA)</td>
<td>480</td>
<td>480 SCQF credits including a minimum of 180 credit at Level 9 and 10 of which at least 90 credits at Level 10</td>
</tr>
<tr>
<td>Ordinary or General Degree</td>
<td>360</td>
<td>360 SCQF credits including a minimum of 60 credit at Level 9</td>
</tr>
<tr>
<td>Diploma of Higher Education</td>
<td>240</td>
<td>240 SCQF credits including a minimum of 90 credit at Level 8</td>
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<tr>
<td>Certificate of Higher Education</td>
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<td>120 SCQF credits including a minimum of 90 credit at Level 7</td>
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</tbody>
</table>

**Part B. Mark/Grade Requirements**

<table>
<thead>
<tr>
<th>Degree Type</th>
<th>Overall Mark</th>
<th>Overall Grade</th>
<th>Basis of Overall Mark/Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated Masters</td>
<td>&gt;=50%</td>
<td>C</td>
<td>Credit Weighted Average &gt;=50% over all qualifying courses at Grades A-D</td>
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<tr>
<td>Honours Degree (inc.MA)</td>
<td>&gt;=40%</td>
<td>D</td>
<td>1st: Credit Weighted Average &gt;=70% Over all</td>
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</tbody>
</table>
D2A1-CEI Master of Engineering in Civil Engineering with International Studies

<table>
<thead>
<tr>
<th></th>
<th>Qualifying Courses at Grades A-D.</th>
<th>2.1: Credit Weighted Average &gt;=60% Over All Qualifying Courses at Grades A-D.</th>
<th>2.2: Credit Weighted Average &gt;=50% Over All Qualifying Courses at Grades A-D.</th>
<th>3rd: Credit Weighted Average &gt;=40% Over All Qualifying Courses at Grades A-D.</th>
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</thead>
<tbody>
<tr>
<td>Ordinary or General Degree</td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
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</tr>
<tr>
<td>Diploma of Higher Education</td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
<td></td>
</tr>
<tr>
<td>Certificate of Higher Education</td>
<td>&gt;=40%</td>
<td>D</td>
<td>Minimum of grade D in all pre-requisite courses.</td>
<td></td>
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**DURATION OF STUDY**

<table>
<thead>
<tr>
<th>IN MONTHS</th>
<th>Full-time</th>
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<tbody>
<tr>
<td>Integrated Masters</td>
<td>60</td>
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<tr>
<td>Honours Degree</td>
<td>48</td>
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<tr>
<td>Ordinary or General Degree</td>
<td>36</td>
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<tr>
<td>Diploma of Higher Education</td>
<td>24</td>
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<tr>
<td>Certificate of Higher Education</td>
<td>12</td>
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