**Module Descriptor**

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| **Title** | Sustainability Principles | | |
| **Session** | 2025/26 | **Status** | Published |
| **Code** | CEWM11012 | **SCQF Level** | 11 |
| **Credit Points** | 20 | **ECTS (European Credit Transfer Scheme)** | 10 |
| **School** | **Computing, Engineering and Physical Sciences** | | |
| **Module Co-ordinator** | G Clayton | | |

**Summary of Module**

In 2015, the United Nations launched Agenda 2030 with the agreement of 17 Sustainable Development Goals. These commit Governments, organisations and people to achieving sustainable development across the three pillars of sustainability, namely environment, society, and economy. In other words, planet, people, profit. These targets require innovative solutions to end inequalities in terms of poverty, hunger, education, gender equality, and the protection of Earth and its natural resources. The current climate emergency is focusing society's attention on the need for a more sustainable approach to manufacturing, processing and waste management with many countries adopting 'net zero' targets by 2050, including moving towards a more circular economy.

The module examines the three principles of sustainability and their relationship to the circular economy. These concepts and principles are then applied to a range of industrial and utility sectors including agriculture, water resources, construction and the energy industry, as well as resource recovery and recycling.

On completion of this module, you will gain the following Graduate Attributes: Critical thinking as you work collaboratively on a research-minded assignments, Problem solving and effective communication. Your research will be innovative and creative producing resilient solutions to our environmental and waste management challenges.

| **Module Delivery Method** | **On-Campus[1]** | **Hybrid[2]** | **Online[3]** | **Work -Based Learning[4]** |
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| | ☒ | ☐ | ☐ | ☐ |

[1] Where contact hours are synchronous/ live and take place fully on campus. Campus-based learning is focused on providing an interactive learning experience supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus contact hours will be clearly articulated to students.

[2] The module includes a combination of synchronous/ live on-campus and online learning events. These will be supported by a range of digitally-enabled asynchronous learning opportunities including learning materials, resources, and opportunities provided via the virtual learning environment. On-campus and online contact hours will be clearly articulated to students.

[3] Where all learning is solely delivered by web-based or internet-based technologies and the participants can engage in all learning activities through these means. All required contact hours will be clearly articulated to students.

[4] Learning activities where the main location for the learning experience is in the workplace. All required contact hours, whether online or on campus, will be clearly articulated to students

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| **Campuses for Module Delivery** | ☐ Ayr<br>☐ Dumfries | | ☐ Lanarkshire<br>☐ London<br>☒ Paisley | | ☐ Online / Distance Learning<br>☐ Other (specify) | |
| **Terms for Module Delivery** | Term 1 | ☐ | Term 2 | ☒ | Term 3 | ☒ |
| **Long-thin Delivery over more than one Term** | Term 1 – Term 2 | ☐ | Term 2 – Term 3 | ☐ | Term 3 – Term 1 | ☐ |

| **Learning Outcomes** | |
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| **L1** | Demonstrate a detailed knowledge of sustainability including ecosystem services and environmental justice. |
| **L2** | Apply critical understanding of the principles of sustainability and circular economy in the development and application of complex environmental challenges. |
| **L3** | Demonstrate and implement an extensive and detailed understanding of sustainability and the circular economy. |
| **L4** | Critically evaluate circular economy activities and the relationship to sustainability and be able to communicate this to others. |
| **L5** | N/A |

| **Employability Skills and Personal Development Planning (PDP) Skills** | |
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| **SCQF Headings** | **During completion of this module, there will be an opportunity to achieve core skills in:** |
| **Knowledge and Understanding (K and U)** | **SCQF 11**<br>Gain a critical understanding of the principles of sustainability. Evaluate the effectiveness of sustainable waste and pollution reduction initiatives. |
| **Practice: Applied Knowledge and Understanding** | **SCQF 11**<br>Identify sustainability and circular economy issues and potential for resource management in a range of industrial settings. Synthesise information and gain a coherent understanding of theories and practices in managing resources in a variety of industries |
| **Generic Cognitive skills** | **SCQF 11**<br>Develop and demonstrate an ability to communicate effectively in a variety of professional settings.<br>Demonstrate an understanding of an issue and develop a solution to an industrial problem |
| **Communication, ICT and Numeracy Skills** | **SCQF 11**<br>Gain a full understanding of the process of preparing oral and written reports, using IT.<br>Communicate results in a professional setting. |
| **Autonomy, Accountability** | **SCQF 11** |

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| **and Working with Others** | Work as part of a professional team to analyze information from a case study situation for an industrial application, formulate a solution and present it back to the group.<br>Work independently to create innovative solutions to complex environmental issues. |

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| **Prerequisites** | **Module Code** N/A | **Module Title** N/A |
| | **Other** | |
| **Co-requisites** | **Module Code** N/A | **Module Title** N/A |

| **Learning and Teaching** | |
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| In line with current learning and teaching principles, a 20-credit module includes 200 learning hours, normally including a minimum of 36 contact hours and maximum of 48 contact hours. | |
| **Learning Activities**<br>During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below: | **Student Learning Hours**<br>(Note: Learning hours include both contact hours and hours spent on other learning activities) |
| Lecture / Core Content Delivery | 30 |
| Tutorial / Synchronous Support Activity | 6 |
| Independent Study | 164 |
| n/a | |
| n/a | |
| n/a | |
| **TOTAL** | 200 |

| **Indicative Resources** |
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| **The following materials form essential underpinning for the module content and ultimately for the learning outcomes:**<br>Dresner, S. (2008) Principles of Sustainability, 2nd edn, Routledge<br>Rayman-Bacchus, L. and Walsh, P.R. (2020) Corporate Responsibility and Sustainable Development, 1st edn, Routledge<br>NetRegs: Environmental guidance for Northern Ireland and Scotland: https://www.netregs.org.uk/<br>Scottish Environment Protection Agency: https://www.sepa.org.uk/<br>UN Sustainable Development Goals: https://sdgs.un.org/goals<br>Zero Waste Scotland: https://www.zerowastescotland.org.uk/<br>UWS class notes on the Virtual Learning Environment |

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| **(N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)** |

| **Attendance and Engagement Requirements** |
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| **In line with the Student Attendance and Engagement Procedure, Students are academically engaged if they are regularly attending and participating in timetabled on-campus and online teaching sessions, asynchronous online learning activities, course-related learning resources, and complete assessments and submit these on time.**<br><br>**For the purposes of this module, academic engagement equates to the following:**<br><br>The School of Computing, Engineering and Physical Sciences considers attendance and engagement to mean a commitment to attending, and engaging in, timetabled sessions. You will scan your attendance via the scanners each time you are on-campus and you will login to the VLE several times per week. Where you are unable to attend a timetabled learning session due to illness or other circumstance, you should notify the Programme Leader that you cannot attend. Across the School an 80% attendance threshold is set. If you fall below this, you will be referred to the Student Success Team to see how we can best support your studies. |

| **Equality and Diversity** |
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| **The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.**<br><br>Aligned with the University's commitment to equality and diversity, this module supports equality of opportunity for students from all backgrounds and learning needs. Using the VLE, material will be presented electronically in formats that allow flexible access and manipulation of content. This module complies with University regulations and guidance on inclusive learning and teaching practice. Specialist assistive equipment, support provision and adjustment to assessment practice in accordance with the University's policies and regulations. |
| **(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)** |

**Supplemental Information**

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| **Divisional Programme Board** | **Engineering Physical Sciences** |
| **Overall Assessment Results** | ☐ **Pass / Fail** ☒ **Graded** |
| **Module Eligible for Compensation** | ☐ **Yes** ☒ **No**<br>**If this module is eligible for compensation, there may be cases where compensation is not permitted due to programme accreditation requirements. Please check the associated programme specification for details.** |
| **School Assessment Board** | Physical Sciences |
| **Moderator** | A Hursthouse |
| **External Examiner** | A Oke |
| **Accreditation Details** | N/A |
| **Module Appears in CPD catalogue** | ☐ **Yes** ☒ **No** |
| **Changes / Version Number** | 1.2 |

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| | Updated learning activity timiing allocation<br>Updated the attendance and EDI statements |

| **Assessment (also refer to Assessment Outcomes Grids below)** |
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| **Assessment 1** |
| Written essay for sustainability in industry (40%) |
| **Assessment 2** |
| Critical analysis report (40%) |
| **Assessment 3** |
| Oral presentation (20%) |
| (N.B. (i) Assessment Outcomes Grids for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.<br>(ii) An indicative schedule listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Module Handbook.) |

| **Component 1** | | | | | | | |
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| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Essay | ☒ | ☒ | ☐ | ☐ | ☐ | 40 | |

| **Component 2** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Written Report | ☐ | ☐ | ☒ | ☒ | ☐ | 40 | |

| **Component 3** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Assessment Type** | **LO1** | **LO2** | **LO3** | **LO4** | **LO5** | **Weighting of Assessment Element (%)** | **Timetabled Contact Hours** |
| Oral Presentation | ☐ | ☒ | ☐ | ☒ | ☐ | 20 | 6 |
| **Combined total for all components** | | | | | | 100% | 6 hours |

**Change Control**

| **What** | **When** | **Who** |
|---|---|---|
| Teaching activity timing allocation | 21/03/2025 | G Clayton |
| Attendance and EDI statements were updated | 21/03/2025 | G Clayton |
| Updated timetabled contact hours for Assessment 3 | 21/03/2025 | G Clayton |
| Campus location changed to Paisley only a | 21/03/2025 | G Clayton |
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