Module Descriptor

Title	Sustainability and the Circular Economy		
Session	2024/25	**Status**	Published
Code	BIOL10031	**SCQF Level**	10
Credit Points	20	**ECTS (European Credit Transfer Scheme)**	10
School	**Health and Life Sciences**		
Module Co-ordinator	Kiri Rodgers		

Summary of Module

The 2030 United Nations Sustainable Development Goals (UNSDGs) was established in 2015 by the United Nations. The UNSGDs were designed to act purposely as a blueprint to create a better and more sustainable future for everyone. There are 17 UNSDGs, all interlinked and recognise that action in one area will affect the outcome of others, as a result any development must bring harmony to social, environmental, and economic sustainability.

The world population is growing rapidly, hence there is a great need to develop clever green technologies to cater for consumers whilst also promoting inclusive, sustainable economic growth, employment, and acceptable employment for all. The circular economy is a model that balances production and consumption, establishing a sustainable economic growth over time. The circular economy serves to advance the world's societies by optimizing resources, reducing raw material consumption, and waste recovery via recycling or renewal into new products. This module will focus on sustainability and its role in the world's circular economy.

This module will: highlight the 2030 United Nations Sustainable Development Goals, explore the context of global sustainability and its ethics, discover how sustainability impacts the society, economy, and environment both locally and globally, investigate the circular economy its guidelines and tools and the policies in circular economy and climate change, analyse the principles of sustainability and the circular economy towards creating a clean, green, and sustainable future through viewing relevant case studies on innovative emerging technologies.

Sustainability and the Circular Economy is a module that will help students develop the following 'I am UWS' graduate attributes:

U–universal: critical-thinking, analytical-thinking, ethically-minded, culturally-aware, collaboration, research-mindfulness, and social responsibility.

W–work ready: problem-solving, effective communication, motivation, leadership, entrepreneurship, and ambition.

S–successful: autonomy, innovation, creativity, resilience, drive, and transformation.

Module Delivery Method	On-Campus[1] ☐	Hybrid[2] ☒	Online[3] ☐	Work -Based Learning[4] ☐
Campuses for Module Delivery	☐ Ayr ☐ Dumfries	☒ Lanarkshire ☐ London ☐ Paisley	☐ Online / Distance Learning ☐ 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	
L1	Demonstrate detailed knowledge on the 2030 United Nations Sustainable Development Goals (UNSDGs) and a clear understanding of global sustainability and its ethics.
L2	Clearly demonstrate how sustainability impacts the society, economy, and environment both locally and globally.
L3	Show an in-depth understanding of the circular economy the guidelines and tools it uses; critique and evaluate the circular economy and climate change policies.
L4	Develop broad knowledge and understanding of the principles of sustainability and the circular economy that govern innovative and emerging green and sustainable technologies.
L5	Critically review and reflect on sustainable processes for the circular economy to provide solutions to environmental and societal problems.

Employability Skills and Personal Development Planning (PDP) Skills	
SCQF Headings	**During completion of this module, there will be an opportunity to achieve core skills in:**
Knowledge and Understanding (K and U)	**SCQF 10** • Demonstrate detailed knowledge and understanding on the main concepts for sustainability and the circular economy, and how it impacts the society, economy, and environment. • Develop a critical understanding on the context of designing a green and sustainable technology or process to address societal, economic, and environmental problems.

[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

Practice: Applied Knowledge and Understanding	**SCQF 10** • Apply knowledge from skills gained and evaluate the design green sustainable technologies. • Apply intuitive thinking, innovation, creativity, and critical thought when understanding applications in industries in sustainability and the circular economy. • Manage complex issues through the application of ethics and policies that surround sustainability, the circular economy and climate change.
Generic Cognitive skills	**SCQF 10** • Critically analyse policies and guidelines, tools, and ethics encompassing sustainability, the circular economy, and climate change. • Demonstrate original thinking and recognise limitations of current codes of practice.
Communication, ICT and Numeracy Skills	**SCQF 10** • Develop communication skills both written and oral and be able to convey subject-based knowledge/complex information clearly and effectively to a wide range of audience – experts and non-experts. • Develop useful ICT skills for usage in academic work – written and oral. Be able to critically interpret and evaluate different forms of graphical, numerical, and statistical data using these ICT skills.
Autonomy, Accountability and Working with Others	**SCQF 10** • Work with peers as a professional team to carry out research, group work activities and produce good quality assessment work through incorporating teamwork and collaboration. • Be able to self-reflect and reflect as a group on work when working as a group or individually when accomplishing tasks by evaluation of accountability and autonomy in the tasks set.

Prerequisites	**Module Code**	**Module Title**
	Other	
Co-requisites	**Module Code**	**Module Title**

Learning and Teaching	
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 During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	**Student Learning Hours** (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture / Core Content Delivery	12
Tutorial / Synchronous Support Activity	12

Laboratory / Practical Demonstration / Workshop	12
Independent Study	164
Please select	
Please select	
TOTAL	200

Indicative Resources

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:

- https://www.undp.org/sustainable-development-goals
- https://unfccc.int/process-and-meetings/the-paris-agreement
- https://circularecology.com/embodied-carbon-footprint-database.html
- https://www.gov.uk/government/publications/circular-economy-package-policy-statement/circular-economy-package-policy-statement
- https://ellenmacarthurfoundation.org/universal-policy-goals/overview
- https://www.oecd-ilibrary.org/sites/1f1751da-en/index.html?itemId=/content/component/1f1751da-en
- https://www.legislation.gov.uk/ukpga/2008/27/contents
- https://www.gov.scot/policies/climate-change/
- https://www.gov.uk/government/publications/sustainability-and-climate-change-strategy
- https://www.eea.europa.eu/themes/climate/policy-context

https://www.gov.uk/government/publications/greening-government-sustainable-technology-strategy-2020/the-greening-government-sustainable-technology-strategy-2020-sustainable-technology-for-sustainable-government

(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

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.

For the purposes of this module, academic engagement equates to the following:

Attendance to all online, on-campus classes and laboratory sessions

Equality and Diversity

The University's Equality, Diversity and Human Rights Procedure can be accessed at the following link: UWS Equality, Diversity and Human Rights Code.

(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

Divisional Programme Board	**Biological Sciences Health**
Overall Assessment Results	☐ **Pass / Fail** ☒ **Graded**
Module Eligible for Compensation	☒ **Yes** ☐ **No** **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	Biological Sciences and Health
Moderator	Roderick Williams
External Examiner	TBC
Accreditation Details	
Module Appears in CPD catalogue	☐ **Yes** ☒ **No**
Changes / Version Number	1

Assessment (also refer to Assessment Outcomes Grids below)
Assessment 1
Case Study (40%)
Assessment 2
Project work (60%)
Assessment 3
(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. (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							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Class Study	☐	☐	☐	☐	☒	40	0

Component 2							
Assessment Type	**LO1**	**LO2**	**LO3**	**LO4**	**LO5**	**Weighting of Assessment Element (%)**	**Timetabled Contact Hours**
Porfolio of written work	☒	☒	☒	☒	☒	40	0

Component 3

Assessment Type	LO1	LO2	LO3	LO4	LO5	Weighting of Assessment Element (%)	Timetabled Contact Hours
Presentation	☒	☒	☒	☒	☒	20	
Combined total for all components						100%	2 hours

Change Control

What	When	Who