EV7127 Module Specification

Module Title: **Ecosystems and ecosystem services**	**Module Code: EV7127** **Level: 7** **Credit: 15** **ECTS credit: 7.5**	**Module Leader**: Tom Barker
Pre-requisite: none	**Pre-cursor: none**	
Co-requisite: none	**Excluded combinations: none**	**Suitable for incoming study abroad?** N
Location of delivery: CAT/By distance learning:		

Summary of module for applicants:

In this module students will gain an appreciation of the key roles played by species, populations and healthy ecosystems in provision of essential tangible and intangible services to human society, They will then progress to comprehend the varied influences of anthropogenic activity on environmental quality, biodiversity and ecosystem service provision, This will enable them to develop a critical understanding of the role of ecosystem services in sustainability and conservation.

Main topics of study:

- Ecosystem services
- Land use
- Contaminated land
- Water security
- Sustainable waste and sanitation management
- Floodplain management

All these topics will be considered within the context of sustainability and adaptation planning

This module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project ☒
Company/engagement visits ☐
Company/industry sector endorsement/badging/sponsorship/award ☐

Learning Outcomes for the module

Where a LO meets one of the UEL core competencies, please put a code next to the LO that links to the competence.

- *Digital Proficiency - Code = (DP)*
- *Industry Connections - Code = (IC)*
- *Social & Emotional Intelligence - Code = (SEI)*
- *Physical Intelligence - Code = (PI)*
- *Cultural Intelligence - Code = (CI)*
- *Community Connections & UEL Give Back - Code = (CC)*
- *Cognitive Intelligence – Code = (COI)*
- *Enterprise and Entrepreneurship (EE)*

At the end of this module, students will be able to:

Knowledge

1. Demonstrate a critical understanding of the ecological and biodiversity foundations of ecosystem functioning and the necessity for ecosystem integrity for provision of services to society, with reference to the published literature. (COI, DP)
2. Show mastery in the comprehensive understanding of the increasing problems caused by

direct and indirect societal impacts on ecosystems and biodiversity for the continued provision of ecosystem services. (COI)

Thinking skills

3. Develop critical arguments to analyse the ecological and ecosystem service provision implications of current and future policy for the built environment or offer effective or innovative ecological solutions to the problems of sustainability and adaptation. (COI)
4. Develop critical responses to evidence from the peer-reviewed literature and primary or secondary data to critically evaluate the potential impacts of climate change and biodiversity losses on both current and future ecosystem service provision within an adaptation transformation context. (COI, DP)
5. Evaluate the role and implications of employing an ecosystems services approach to sustainability and adaptation. (COI)

Subject-based practical skills

Skills for life and work (general skills)

6 Effectively communicate complex ideas to a wider audience. [CC; COI; DP]

Teaching/ learning methods/strategies used to enable the achievement of learning outcomes: For students studying onsite and by distance learning:

The factual content of the module is taught through lectures, seminars, practical workshops, demonstrations and tutorials. Students have access to MS Teams where they can access recorded and written support material, meet with their peers and a tutor to discuss any academic issue. Both theoretical and practical aspects are covered both onsite and through interactive sessions on Teams.

There is a formative learning element to the module to allow the students to receive critical feedback on their work without the pressure of marked assessment.

For distance learning (DL) students, learning will be supported through streamed and recorded Internet-based lectures (of the onsite lectures), situation related practical exercises, seminars and tutorials.

Lectures onsite and through MS Teams highlight key concepts, models and frameworks, and integrate additional resources (such as journal articles). They encourage deep learning through the use of self-assessment questions which encourage students to engage with the topic, to help students understand new topics and skills.

Assessment methods which enable students to demonstrate the learning outcomes for the module; please define as necessary:	**Weighting:**	**Learning Outcomes demonstrated:**
1. Essay (2,400 word max.)	80%	1,2,3,5
2. Individual Presentation 10 min (600 word equivalent)	20%	3,4,6

Reading and resources for the module:

Core

Wilkinson D.M. (2007) *Fundamental Processes in Ecology. An Earth Systems Approach*. Oxford UniversityPress, Oxford.

Recommended

Colinvaux P. (1978). *Why Big Fierce Animals Are Rare. An Ecologists Perspective*. Princeton UniversityPress, Princeton.

Dasgupta, P. (2021) The Economics of Biodiversity: The Dasgupta Review. (London: HM Treasury). Available from: https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review

Diaz S., et al., (2019) Pervasive human-driven decline of life on Earth points to the need for transformative change. Science 366, 6741.

Giller, K.E., Hijbeek, R., Andersson, J.A. and Sumberg, J. (2021) Regenerative Agriculture: An agronomic perspective. Outlook on Agriculture, 1 – 13. DOI: 10.1177/0030727021998063. Available online: https://journals.sagepub.com/doi/10.1177/0030727021998063

Kallis G., Gómez-Baggethun E. & Zografos C. (2013). To value or not to value? That is not the question. Ecological Economics 94 97-105.

Leopold, A. (1949). *A Sand County Almanac, and Sketches Here and There*. Republished by OUP in 1968.

Moss, B. (2012) *Liberation Ecology: The Reconciliation of Natural and Human Cultures*, 'Excellence in Ecology' series, book 24, Inter-Research, Oldendorf/Luhe.

Grant N., Moodie M. & Weedon, C. (2012), *Choosing Ecological Sewage Treatment*. CAT Publications, Machynlleth.

Harper P. and Halestrap L. (1999) *Lifting the Lid. An Ecological Approach to Toilet Systems*. CAT Publications, Machynlleth.Reference to relevant journals, websites and other relevant resources will be provided within written materials of the module.

(*) Available as an e-book

Leopold, A. (1949). *A Sand County Almanac, and Sketches Here and There*. Republished by OUP in 1968.Moss

Provide evidence of how this module will be able to demonstrate at least one of the following examples/ exposures

Live, applied project
The CAT site will be used to demonstrate the use of natural or semi-natural ecosystems to provide ecosystem services

Company/engagement visits *N/A*

Company/industry sector endorsement/badging/sponsorship/award *N/A*

Indicative learning and teaching time (10 hrs per credit):	**Activity**

1. Student/tutor interaction: 30 hours	Lectures, seminars, tutorials, presentations, practicals / demonstrations **30 hours**
2. Student learning time: 120 hours	Seminar reading and preparation, assignment preparation, background reading, and research activities. **120 hours**
Total hours (1 and 2): 150h	

For office use only. (Not required for Programme Handbook)

Assessment Pattern for Unistats KIS (Key Information Sets)	**Weighting:**
Coursework *(written assignment, dissertation, portfolio, project output)*	
Practical Exam *(oral assessment, presentation, practical skills assessment)*	
Written Exam	

HECoS Code:	
UEL Department:	