

Module Code:	<b>7506CATSCI</b>	Version No:	1
		Updated on:	
Module Title:	<b>Ecosystem Services, Land-use and Waste Management</b>	Authorisation:	
		Validation Date:	
		Date version starts:	
School:	NSP	Archived Date:	
		Dormant Date:	
FOR OFFICE USE ONLY			

Module Leader

Name: TBC

E-mail: TBC

Level: 7

**Credit Rating: 15**

Indicative Time Allowances (hours):

Lec	Tut	Sem			Prt	Wrk	Fld	Other	Deliv. Tot	Exam	Private Study	Tot. Learning Hours
29.5	0	1			7	0	0	0	37.5	0	120	157.5

Semester Delivery: (Select one only)

Semester 1  Semester 2  Runs twice (S1 & S2)

Year Long  Summer  Other

Pre-requisites: n/a

Recommended Prior Study: n/a

Co-requisites: n/a

Barred Combinations: n/a

Aims:

- a) Gain a critical appreciation of the key roles played by species, populations and healthy ecosystems in provision of essential tangible and intangible services to human society, as well as the need to ensure ecological integrity on appropriate scales;
- b) Develop a comprehensive understanding of the environmental impacts of sourcing, management and disposal of material and water resources, the case for wise use and reuse where appropriate in order to function within resource, ecological and

- societal constraints, and the lessons to be learned from nature in resource design and processing;
- c) Show critical awareness of the varied impacts of land use on environmental quality, biodiversity and ecosystem service provision, including industrial, domestic and agricultural wastes and their management;
  - d) Recognise the inherent lack of sustainability in modern, centralised food production and the necessity for ecologically-designed agriculture;
  - e) Critically evaluate the overriding roles of climate change and industrial expansion in imposing progressive change in ecosystem and resource management, and the imperative for sustainable adaptation.

#### Learning Outcomes:

1. Have 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;
2. Show mastery in the comprehensive understanding of increasing problems caused by direct and indirect societal impacts on ecosystems and biodiversity for the continued provision of ecosystem services;
3. Develop critical arguments to analyse the ecological and ecosystem service provision implications of current and future policy for the built environment and offer effective or innovative ecological solutions to the problems of sustainability and adaptation;
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.

#### Learning Activities:

This module will comprise lectures, seminars and discussion groups and will be supported by extended practical activities examining aspects of soil, plant growth or ecosystem interactions to generate data.

Distance learners will have access to all of the lecturers and other learning materials via the VLE and will be provided with instructions for carrying out a relevant practical activity at home in order to collect data for analysis. Students will also join topic seminars and discussions via Skype.

#### Outline Syllabus:

Ecosystem services; land use and sustainable agriculture; contaminated land; water security; sustainable waste and sanitation management; floodplains, flooding and drainage; resource production; food security, and biomimetics, all within the context of sustainability and adaptation planning.

---

#### Assessment Details:

1. Coursework: Literature review (2,400 word max). 80%
2. Coursework: Scientific poster (600 words equivalent). 20%

Weighting between E and CW: 0% 100%

Relationship between learning outcomes and assessment tasks:

	Learning Outcomes			
	1	2	3	4
Component 1	X	X	X	
Component 2			X	X

Minimum Pass Mark (%): 50

---

Module Notes:

This module will be available onsite and at distance.