

Module Details	
Module Code:	ENVR S7008
Full Title:	Applied Ecology <span>APPROVED</span>
Valid From::	Semester 2 - 2018/19 ( February 2019 )
Language of Instruction:	English
Duration:	1 Semester
Credits::	7.5
Module Owner::	Siobhan McCarthy
Departments:	Unknown
Module Description:	The purpose of this module is to provide an introduction to key concepts and processes in ecosystem functioning. Students will explore the links between humans and environmental systems and gain a knowledge of solutions to environmental problems

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Describe ecological concepts and relate these to ecosystems and environmental issues
MLO2	Identify the impacts of humans on the global environment and appraise methods for restoration of damaged ecosystems
MLO3	Perform a variety of biological techniques used in ecosystem studies.
MLO4	Develop the skills to collect, record, analyse, present and interpret data generated from the field and laboratory techniques.
Pre-requisite learning	
Module Recommendations	
<p><i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i></p>	
No recommendations listed	

<b>Module Indicative Content</b>
<b>Ecological Concepts</b> Levels of biological organisation and scale; community and population dynamics; species interactions; ecological energy flow
<b>Ecological Diversity</b> Major ecosystems and habitats; factors that influence diversity; invasive species; regulation of populations
<b>Role of Humans in Ecosystems</b> Human impacts on the environment, including environmental issues ; ecology of food production (ecological perspective in agriculture, increasing production for growing populations, GMOs, climate change); restoring damaged ecosystems (mitigation, restoration and legislation); sustainability and United Nations Sustainable Development Goals
<b>Practicals</b> Practical will include both laboratory based skills and field trips and site visits. Sample practicals: Determination of population size using mark-recapture methods; virtual lab for simulations of energy flow through food chain; niche identification using owl pellets. Sample field trips/site visits: Exploring the importance of diversity and sustainability (site visit SONAIRTE); diversity in streams - collecting and analysing invertebrate samples.

Module Assessment	
Assessment Breakdown	%
Course Work	20.00%
Practical	30.00%
Final Examination	50.00%
Module Special Regulation	

## Assessments

Full Time On Campus			
Course Work			
Assessment Type	Portfolio	% of Total Mark	20
Marks Out Of	0	Pass Mark	0
Timing	End-of-Semester	Learning Outcome	1,2
Duration in minutes	0		
<b>Assessment Description</b> Students will complete an e-portfolio on a chosen community or ecosystem. The e-portfolio will emphasise threats to the ecosystem and solutions for mitigation			
No Project			
Practical			
Assessment Type	Practical/Skills Evaluation	% of Total Mark	30
Marks Out Of	0	Pass Mark	0
Timing	n/a	Learning Outcome	3,4
Duration in minutes	0		
<b>Assessment Description</b> Regular lab reports			
Final Examination			
Assessment Type	Formal Exam	% of Total Mark	50
Marks Out Of	0	Pass Mark	0
Timing	End-of-Semester	Learning Outcome	3
Duration in minutes	0		
<b>Assessment Description</b> End-of-Semester Final Examination			

## Module Workload

### Workload: Full Time On Campus

<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	No Description	Every Week	3.00	3
Practical	Contact	Practical techniques will be taught in laboratory practical classes and on field trips.	Every Week	3.00	3
Directed Reading	Non Contact	No Description	Every Week	2.00	2
Independent Study	Non Contact	No Description	Every Week	3.00	3
				Total Weekly Learner Workload	11.00
				Total Weekly Contact Hours	6.00

This module has no Part Time On Campus workload.

Module Resources
<i>Recommended Book Resources</i>
<p>Botkin, D.B and Keller, E.A.. (2014), Environmental Science: Earth as a Living Planet, Wiley.</p> <p>Begon, M., Townsend, C. and Harper, J.. (2005), Ecology: From Individuals to Ecosystems, Wiley-Blackwell, [ISBN: 9781405111].</p>
<i>Supplementary Book Resources</i>
<p>Jones, A.M.. (2000), Environmental Biology, Routledge.</p>
<i>This module does not have any article/paper resources</i>
<i>Other Resources</i>
<p>website, Environmental Protection Agency,  <a href="http://www.epa.ie">http://www.epa.ie</a></p> <p>website, National Parks and Wildlife,  <a href="http://www.npws.ie">http://www.npws.ie</a></p> <p>website, National Biodiversity Centre,  <a href="http://www.biodiversityireland.ie">http://www.biodiversityireland.ie</a></p> <p>Website, UN Sustainable Development Goals,  <a href="http://www.undp.org">http://www.undp.org</a></p>