Liverpool John Moores University

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Title:	WILDLIFE & ECOSYSTEM MANAGEMENT
Status:	Definitive
Code:	**5010NATSCI** (101257)
Version Start Date:	01-08-2018
Owning School/Faculty:	Natural Sciences & Psychology
Teaching School/Faculty:	Natural Sciences & Psychology

Team	Leader
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Academic Level:	FHEQ5	**Credit Value:**	24	**Total Delivered Hours:**	56
Total Learning Hours:	240	**Private Study:**	184		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	33
Off Site	15
Workshop	6

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam: 3 short essay questions	40	2
Report	fld rpt	Coursework: Field report.	60	

Aims

a) To provide an advanced course in general ecology and wildlife population

management.
b) Illustrate the inter-linkages between flora and fauna populations and biogeochemical cycles on different spatial and temporal scales.
c) Relate key wildlife population, ecology and ecosystem theories to the applied management of populations, habitats and ecosystems.

Learning Outcomes

After completing the module the student should be able to:

1	Describe complex interrelationships occurring within biological populations and ecological systems and explain how these might vary spatially and temporally.
2	Explain how biotic and abiotic interactions may influence ecosystem functioning.
3	Critically evaluate the value of understanding population, community, and ecosystem dynamics in the management of wildlife and ecosystems.
4	adopt a practical analytical approach to the study of habitats managed and restored for nature conservation or ecosystem functioning.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

EXAM	1	2	3
CW- Field report	4		

Outline Syllabus

Summary of relevant ecological, ecosystem, and wildlife population theories.
Large scale patterns: biogeography, historical and evolutionary contexts for plant and animal distributions, macroecology, classical island biogeography, colonization and extinction. Island endemism and its conservation management implications.
Smaller scale patterns: sources versus sink populations, metapopulations and their structure and dynamics. Conservation implications of metapopulations.
Applications of population ecology to wildlife management. For example, game management and/or fisheries management.
Species abundance, diversity, analysis of diversity. Niche concept, competition, displacement or co-existance and maintenance of diversity. Trophic interactions. Conservation and management implications of these factors.
Role of species in ecosystem structure and function, maintenance and restoration of ecosystem function.
Vegetation change, community assembly and succession. the historical perspective and timescales. primary and secondary community assembly, climax versus non-climax communities. Community change during succession, implications for re-vegetation and implications for management.
Energy flow and cycling, biomass production, nutrient circulation, decomposition, biogeochemical cycles.
Global scale biotic and abiotic interactions, biogeochemical cycles and Gaia theory.

Learning Activities

This module will comprise a series of lectures, supported by fieldtrips. Students will be able to collect their own data and examine the impact of management on conservation during the fieldtrips. There will also be workshops looking at linking together the theories covered with conservation case-studies and to revise the module material.

References

Course Material Book
Author Begon, M., Harper, J.L. & Townsend, C.R.
Publishing Year 2006
Title Ecology:
Subtitle From individuals to ecosystems' .
Edition 4th Edition
Publisher Blackwell Scientific
ISBN 1405111178
AA
Course Material Book
Author Cox, C.B. & Moore, P.
Publishing Year 2004
Title 'Biogeography :an ecological & evolutionary approach'
Subtitle
Edition 7th
Publisher Blackwell Scientific
ISBN 1405118989
AA
Course Material Book
Author Krebs, C.
Publishing Year 2009
Title 'Ecology
Subtitle The experimental analysis of distribution and abundance
Edition 6th
Publisher Addison Wesley Longman
ISBN 0321042891

Course Material Book
Author Sinclair, A.R.E., Fryxell, J.M. & Caughley, G.
Publishing Year 2006
Title Wildlife Ecology, Conservation and Management
Subtitle
Edition 2nd
Publisher Blackwell Publishing
ISBN

Notes

This module is an advanced course in general ecology and wildlife population management and seeks to draw linkages between populations and biogeochemical cycles. This is placed within the context of applied wildlife and ecosystem management by using a mix of case studies, workshops, and fieldtrips to a site managed and restored for wildlife or wider ecosystem functioning.