

University of the West of Scotland

Module Descriptor

Session: 2022/23

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Status: Published

Title of Module: Pest Management

Code: BIOL10015	SCQF Level: 10 (Scottish Credit and Qualifications Framework)	Credit Points: 20	ECTS: 10 (European Credit Transfer Scheme)
School:	School of Health and Life Sciences		
Module Co-ordinator:	Richard Thacker		

Summary of Module

The module begins with a consideration of pest species ecological characteristics, particularly in relation to the r-K continuum and in relation to the synoptic model of population growth. A review of the damage caused by both vertebrate and invertebrate pests is presented along with the methods that are used to measure and assess pest species damage. The economics of pest management strategies are described particularly in relation to the use of economic thresholds for decision-making purposes. The process of pest management for both vertebrates and invertebrates is then described from a systems perspective. Vertebrate pests considered comprise deer, foxes, moles, mice, rabbits and rats in both urban and rural environments. The importance of many vertebrates as vectors of pathogenic species is discussed. Invertebrate pests considered comprise pests of the major global agricultural ecosystems, i.e. cereals, cotton orchards and rice. Special mention is also given to pest control in enclosed environments like greenhouses. As part of the above, the module describes the different approaches that can be taken to pest control, i.e. chemical, biological, and cultural. During the module students will construct a computer-based economic model of pest population development for decision-making purposes. The module is taught using a blend of lectures and computer laboratories.

- This module will work to develop a number of the key "I am UWS" Graduate Attributes to make those who complete the module (e.g.) Universal Work Ready Successful. these will include students who complete the module being; Analytical, Inquiring, Digitally literate, Autonomous, Problem-solver, Research-minded, effective communicator, Collaborative, Resilient and Driven.

Module Delivery Method

Face-To-Face	Blended	Fully Online	HybridC	HybridO	Work-based Learning
	✓				

Face-To-Face

Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.

Blended

A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations

Fully Online

Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.

HybridC

Online with mandatory face-to-face learning on Campus

HybridO

Online with optional face-to-face learning on Campus

Work-based Learning

Learning activities where the main location for the learning experience is in the workplace.

Campus(es) for Module Delivery						
The module will normally be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)						
Paisley:	Ayr:	Dumfries:	Lanarkshire:	London:	Distance/Online Learning:	Other:
			✓			

Term(s) for Module Delivery					
(Provided viable student numbers permit).					
Term 1	✓	Term 2		Term 3	

Learning Outcomes: (maximum of 5 statements)
<p>On successful completion of this module the student will be able to:</p> <p>L1. Describe the origins and background associated with pest management theory.</p> <p>L2. Describe in detail the ecological characteristics and problems caused by world's major vertebrate and invertebrate pests.</p> <p>L3. Describe the range of options that are available for ameliorating the inimical effects of most common pest species.</p> <p>L4. Construct a computer-based mathematical model of pest population development that can be used for decision-making purposes.</p>

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 Level 10. Understanding the core theories and principles associated with the pest management process for both vertebrates and invertebrates
Practice: Applied Knowledge and Understanding	SCQF Level 10. The ability to use computer-based software to develop models of pest population development The ability to identify and describe pest species damage and the steps that should be taken to minimize against such damage
Generic Cognitive skills	SCQF Level 10. Undertake critical analysis of the problems caused by pest species and offer solutions to such problems
Communication, ICT and Numeracy Skills	SCQF Level 10. Use of software for data analysis and presentation Interpret graphical data particularly in relation to changes in pest density and make informed decisions concerning dealing with pests
Autonomy, Accountability and Working with others	SCQF Level 10. Understand some of the ethical and professional issue associated with the process of pest management Work with others in practical computer laboratories

Pre-requisites:	Before undertaking this module the student should have undertaken the following:	
	Module Code: BIOL09013	Module Title: Entomology & Parasitology
	Other:	
Co-requisites	Module Code:	Module Title:

* Indicates that module descriptor is not published.

Learning and Teaching	
Learning Activities During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below:	Student Learning Hours (Normally totalling 200 hours): (Note: Learning hours include both contact hours and hours spent on other learning activities)
Lecture/Core Content Delivery	24
Laboratory/Practical Demonstration/Workshop	24
Independent Study	152
	200 Hours Total

****Indicative Resources: (eg. Core text, journals, internet access)**

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

Advances in Vertebrate Pest Management (1999). Cowan, P.D. & Feare, C.J. Filander Verlag

An Introduction to Arthropod Pest Control (2002), Thacker, J.R.M. Cambridge University Press

Insect Pest Management (1991). Dent, D. CABI Publishing.

Integrated Pest Management (1995). Dent, D. Chapman & Hall.

Ecology of Insects (1999). Speight, M.R. et al. Blackwell Scientific.

(**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)

Engagement Requirements

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: [Academic engagement procedure](#)

Where a module has Professional, Statutory or Regulatory Body requirements these will be listed here: Attendance at synchronous sessions (lectures, workshops, practical), completion of asynchronous activities, and submission of assessments to meet the learning outcomes of the module. This module has a practical element as part of the Royal Society of Biology accreditation which must be attended.

Supplemental Information

Programme Board	Biological Sciences and Health
Assessment Results (Pass/Fail)	No
Subject Panel	Biology L7-11
Moderator	Mhairi Alexander
External Examiner	J Spicer
Accreditation Details	Not Applicable
Changes/Version Number	2.09 Attendance and Equality statement updated. Change of delivery to Lanarkshire.

Assessment: (also refer to Assessment Outcomes Grids below)

Class Test (60%)

Coursework (40%)

(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 Handbook.)

Assessment Outcome Grids (Footnote A.)

Component 1						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Class test (written)	✓	✓	✓	✓	60	5

Component 2						
Assessment Type (Footnote B.)	Learning Outcome (1)	Learning Outcome (2)	Learning Outcome (3)	Learning Outcome (4)	Weighting (%) of Assessment Element	Timetabled Contact Hours
Class test (written)	✓	✓	✓	✓	20	4
Report of practical/ field/ clinical work	✓	✓	✓	✓	10	18
Presentation	✓	✓	✓	✓	10	12
Combined Total For All Components					100%	39 hours

Footnotes

A. Referred to within Assessment Section above

B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

Equality and Diversity

In line with current legislation (Equality Act, 2010) and the UWS Equality, Diversity, and Human Rights Code, our modules are accessible and inclusive, with reasonable adjustment for different needs where appropriate. Module materials comply with University guidance on inclusive learning and teaching, and specialist assistive equipment, support provision and adjustment to assessment practice will be made in accordance with UWS policy and regulations. Where modules require practical and/or laboratory based learning or assessment required to meet accrediting body requirements the University will make reasonable adjustment such as adjustable height benches or assistance of a 'buddy' or helper.

Please refer to the UWS Equality and Diversity Policy at the following link: [UWS Equality and Diversity Policy](#)

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(N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School)