FARM H1703: Animal and Plant Biology

Module Title:	Animal and Plant Biology
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	No Programmes

Teaching & Learning Strategies:	Formal lectures will be supplemented by laboratory and group work. The instructor will balance the needs of the learner to acquire the knowledge and skillset that will make them capable of applying biological principals to farm practice. Group learning will underpin individual learning. Case studies will be presented by learner groups. Practical learning experiences will delivered through the use of the biology laboratory at IT Carlow and also through filed labs where identification of weeds, diseases and pests will take place. Students will be trained in the safe use of chemical and biological substances, the principals of which can be applied at both farm and lab level.

Module Aim:	The module aims to provide the learner with a solid understanding of zoology and botany as applied in commercial agriculture.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Display knowledge of the growth and reproduction in animals, plants and fungi. Particularly those of importance to agriculture
LO2	Be capable of distinguishing between animal, plant and fungal cells by their internal structures and their chemistry
LO3	Display an understanding of the chemical processes that are of importance to agriculture
LO4	Describe and illustrate the biological sciences as they apply to animals, especially cattle, sheep, pigs and poultry, together with their interactions with crops and soils.
LO5	Be capable of identifying various weeds, diseases and pests of agricultural importance

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

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Module Content & Assessment

Indicative Content
Plant Biology • Introduction to plant taxonomy; identification of agriculturally important crop and weed species. • Plant cells; structure & function • Physiology of flowering plants: photosynthesis; respiration; reproduction; growth; nutrition; response to environmental stimuli. • Algae; liverworts; mosses; ferns; horsetails; club mosses; and conifers. • Introduction to Agricultural microbiology; agriculturally-important fungi, bacteria and viruses.
Animal Biology • Introduction to animal taxonomy • Animal cells; structure and function • Animal physiology; respiration; reproduction; endocrine system; digestion; growth; nutrition; movement. • Introduction to Agricultural entomology; identification of insects, arthropods and other forms of agricultural significance.

Assessment Breakdown	%
Practical	50.00%
End of Module Formal Examination	50.00%

No Continuous Assessment

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Students will be expected to produce a one to two page summary of their lab session summarising the importance of the topic covered, the methodology and outcomes. Sketches of the outcomes will be encouraged where appropriate. The report should wrap up with key findings and will be handed in at the end of each class in a laboratory notebook. Feedback will be given the following week.	1,2,3,4,5	20.00	n/a
Practical/Skills Evaluation	This will be Students will complete a project in an area of relevance to agriculture but encompass biological processes and the principals of good experimental design. The project will be conducted in groups of three or four depending on final class size. Students will produce a report at the end of their experiment summarising why the experiment is of relevance to agriculture, how the experiment was conducted, their findings and its implications for farming. At the end of the project the group will present their findings to the rest of the class using communication techniques acquired during the year.	1,2,3,4,5	30.00	n/a

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	Terminal Examination	1,2,3,4	50.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecture	30 Weeks per Stage	1.50
Laboratory	30 Weeks per Stage	1.50
Independent Learning	30 Weeks per Stage	3.67
	Total Hours	200.00