MODULE DESCRIPTOR

Module Title

Plant Biology and Biotechnology

Reference	PL2106	Version	2
Created	January 2024	SCQF Level	SCQF 8
Approved	June 2023	SCQF Points	15
Amended	August 2024	ECTS Points	7.5

Aims of Module

To provide students with the ability to explain the fundamentals of plant biology, the application of biotechnology to plants and appreciate the importance of plants to society.

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

1	Demonstrate knowledge of requirements and processes for the survival, growth and reproduction of the major plant groups.
2	Describe the impact of human activity and global warming on plant biodiversity.
3	Discuss the importance of plants and plant products to society and the contribution of plant biotechnology to sustainability.

Indicative Module Content

Introduction to the Plant Kingdom: evolution of plants, taxonomic classification, principal characteristics of lower and higher plants. Plant growth requirements: environmental factors, water, light, temperature, gravity, gases, soil minerals, macronutrients, micronutrients, salinity, pH, biotic factors, hormones, photosynthesis. Plant growth: cell division, transpiration. Sexual reproduction, pollination, fertilization, germination, seeds and fruits. Vegetative growth, asexual reproduction. senescence, abscission. Plants and society: plant breeding, crop production, secondary metabolites, global warming; plant biotechnology; UN Sustainable development goals (SDGs).

Module Delivery

This is a lecture based course supplemented with tutorial sessions and virtual lab exercises.

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Indicative Student Workload	Full Time	Part Time
Contact Hours	36	N/A
Non-Contact Hours	114	N/A
Placement/Work-Based Learning Experience [Notional] Hours	N/A	N/A
TOTAL	150	N/A
Actual Placement hours for professional, statutory or regulatory body		

ASSESSMENT PLAN

If a major/minor model is used and box is ticked, % weightings below are indicative only.

Component 1

Type:	Examination	Weighting:	100%	Outcomes Assessed:	1, 2, 3
Description:	Closed-book examination				

MODULE PERFORMANCE DESCRIPTOR

Explanatory Text

Component 1 (EX1) comprises 100% of the module grade. A minimum of a Grade D is required to pass the module. Non-submission will result in an NS grade.

Module Grade	Minimum Requirements to achieve Module Grade:
A	A
B	B
C	C
D	D
E	E
F	F
NS	Non-submission of work by published deadline or non-attendance for examination

Module Requirements

Prerequisites for Module	Successful completion of Stage 1 of the course or equivalent.
Corequisites for module	None.
Precluded Modules	None.

INDICATIVE BIBLIOGRAPHY

1. EVERT, R.F. AND EICHORN, S.E. 2012. Raven Biology of Plants. 8th Edition. W.H. Freeman.
2. BIDLACK, J.E. AND JANSKY, S.H. 2020. Stern's Introductory Plant Biology. 15th Edition. McGraw Hill.
3. MAUSETH, J.D. 2008. Botany. 4th Edition. Jones and Bartlett.