

## MODULE DESCRIPTOR

### Module Title

Plant Biology and Biotechnology

Reference	PL2106	Version	1
Created	October 2022	SCQF Level	SCQF 8
Approved	June 2023	SCQF Points	15
Amended	August 2021	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 Explain plant evolution and describe the major plant groups.
- 2 Discuss the requirements and processes for the survival, growth and reproduction of plants.
- 3 Discuss the application of biotechnology to plants and the importance of plants and plant products to society.
- 4 Demonstrate effective teamwork and communications skills.

### 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, fertilisation, germination, seeds and fruits. Vegetative growth, asexual reproduction. senescence, abscission. Plants and society: plant breeding, crop production, secondary metabolites, global warming; plant biotechnology.

### Module Delivery

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

**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
<i>Actual Placement hours for professional, statutory or regulatory body</i>		

**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, 4
Description:	Group oral presentation showing evidence of group work.				

**MODULE PERFORMANCE DESCRIPTOR****Explanatory Text**

Component 1 (CW1) comprises 100% of the module grade. A minimum of a Grade D is required to pass the module. Non-submission of either component will result in an NS grade.

Module Grade	Minimum Requirements to achieve Module Grade:
<b>A</b>	A
<b>B</b>	B
<b>C</b>	C
<b>D</b>	D
<b>E</b>	E
<b>F</b>	F
<b>NS</b>	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.