



Module Specification

Plant Growth and Survival

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Part 1: Information

Module title: Plant Growth and Survival

Module code: USSJQD-15-2

Level: Level 5

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Health & Applied Sciences

Department: HAS Dept of Applied Sciences

Partner institutions: None

Field: Applied Sciences

Module type: Module

Pre-requisites: Life on Earth 2021-22

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: Not applicable

Features: Not applicable

Educational aims: The module aims to develop an understanding of plant biology and adaptations in the wider contexts of plant ecology , conservation and the impact of anthropogenic activity.

Outline syllabus: Plants constitute an important part of any ecosystem, providing food, habitat and shelter and biome development that supports a multitude of other microbial and animal species, including our own. Thus, determining how plants manage to exist and thrive in different niche habitats and how they overcome the challenges of the environmental change they face by being sessile, is both important for agricultural production and to understand the wider ecological impact of anthropological activity. Therefore, this module examines how plants have evolved and adapted to grow in different temperatures, in environments with different levels of light, water and nutrient availability and how such environmental factors working in combination determine plant morphology, photosynthetic ability, rate of growth and ultimately, plant size and yield. The module also examines how plants defend against diseases and how phytohormones work interactively to regulate plant responses to changes in both these abiotic and biotic factors. Finally, the module examines the concept of plants living together and along with the adaptations mentioned above, examines the roles of competition, facilitation and communication in the formation, maintenance and migration of plant communities within a changing environment.

Part 3: Teaching and learning methods

Teaching and learning methods: The module is delivered as a mixture of lectorials, tutorials and practical classes. The module will be delivered both on-site and online, as appropriate.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 To understand and discuss how plants have evolved a range of adaptations that enable them to exist in multiple habitats and how plants respond to external abiotic and biotic changes in their environment and how this is regulated by phytohormones.

MO2 To understand and discuss the key concepts and mechanisms by which plants obtain nutrients and the key challenges that plants face in order to maintain photosynthesis.

MO3 To understand and discuss how plants exist in communities and how competition, facilitation and communication operate to change community dynamics and migration

MO4 To experimentally obtain and analyse data and to present their findings in a structured written format.

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 114 hours

Face-to-face learning = 36 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link <https://rl.talis.com/3/uwe/lists/9A13C182-14B4-9CC4-F2AD-AF615C4384ED.html>

Part 4: Assessment

Assessment strategy: This module is assessed with both an online examination (Assessment task A) and a written report based on a critical discussion of the analysis of experimentally obtained data, and information obtained from researching the literature (Assessment task B).

The online examination will have a 24 hour window for completion, and has been selected as an assessment of the ability of students to understand and synthesise ideas from across the module syllabus. Formative activities underpinning this assessment include examination support tutorials, formative quizzes, group work and revision sessions.

The written report has been selected to assess the ability of the students to write scientifically, independently research the literature and analyse published data. This assessment has also been designed to underpin the journal article produced for the

level 6 project module by developing skills in formal, structured scientific report writing. Formative activities underpinning this assessment include in-class discussions and bespoke coursework support sessions.

Assessment tasks:**Report (First Sit)**

Description: Journal style report based on analysed data

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4

Examination (Online) (First Sit)

Description: Online examination (24 hrs)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Report (Resit)

Description: Journal style report based on analysed data

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4

Examination (Online) (Resit)

Description: Online examination (24 hrs)

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Biological Sciences [Frenchay] MSci 2022-23

Wildlife Ecology and Conservation Science [Frenchay] MSci 2022-23

Biological Sciences [Frenchay] BSc (Hons) 2022-23

Wildlife Ecology and Conservation Science [Zoo] BSc (Hons) 2022-23

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Zoo][5yrs] BSc (Hons) 2021-22

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Zoo][4yrs] BSc (Hons) 2021-22

Wildlife Ecology and Conservation Science {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2021-22

Wildlife Ecology and Conservation Science {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2021-22

Biological Sciences {Foundation} [Sep][SW][Frenchay][6yrs] MSci 2021-22

Biological Sciences {Foundation} [Sep][FT][Frenchay][5yrs] MSci 2021-22

Biological Sciences {Foundation} [Sep][SW][Frenchay][5yrs] BSc (Hons) 2021-22

Biological Sciences {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2021-22