

COURSE DETAIL

PLANT AND PLANET

Country

United Kingdom - England

Host Institution

University of Bristol

Program(s)

University of Bristol

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

123

UCEAP Course Suffix**UCEAP Official Title**

PLANT AND PLANET

UCEAP Transcript Title

PLANT & PLANET

UCEAP Quarter Units

8.00

UCEAP Semester Units

5.30

Course Description

This course illustrates the exciting array of developmental adaptations displayed by plants, how plants interact with beneficial and pathogenic organisms, and the importance of plants to life on earth. Teaching progresses through cellular, whole plant, and ecosystem scales. The course starts at the genetic level by explaining the molecular signalling processes through which plants acquire their basic needs of light, CO₂, water, and nutrients, highlighting threats to these resources from global change. This section concludes with discussion of the root rhizosphere, thereby introducing the beneficial interactions between plants and microorganisms. The second section explores harmful interactions between plants and microorganisms. Students are introduced to the different types of crop disease and associated pathogen biology. The molecular mechanisms through which plants detect and resist pathogens are explored, before cultural, chemical, and GM approaches to disease mitigation. The final section of the course considers the importance of plants within ecosystems. This starts with plant interactions with animals, exploring plant-herbivore interactions, plant-pollinator interactions, and seed dispersal strategies. Students explore the impacts of crop production on biodiversity and the importance of and challenges faced by specific ecosystems such as forests. The course concludes with topical examples of how plant science research is addressing global challenges and future research directions.

Language(s) of Instruction

English

Host Institution Course Number

BIOL20021

Host Institution Course Title

PLANT AND PLANET

Host Institution Campus

Bristol

Host Institution Faculty

Host Institution Degree

bachelors

Host Institution Department

Biological Sciences

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