

Liverpool John Moores University

Title: Plant Physiology
Status: Definitive
Code: **4503YAUBIO** (127884)
Version Start Date: 01-08-2021

Owning School/Faculty: Pharmacy & Biomolecular Sciences
Teaching School/Faculty: Yunnan Agricultural University

| Team | Leader |
|-------------|--------|
| Katie Evans | Y |

Academic Level: FHEQ4 **Credit Value:** 20 **Total Delivered Hours:** 92
Total Learning Hours: 200 **Private Study:** 108

Delivery Options

Course typically offered: Semester 2

| Component | Contact Hours |
|-----------|---------------|
| Lecture | 56 |
| Practical | 32 |

Grading Basis: 40 %

Assessment Details

| Category | Short Description | Description | Weighting (%) | Exam Duration |
|----------|-------------------|---|---------------|---------------|
| Exam | AS1 | Exam | 25 | 2 |
| Test | AS3 | Experimental principles and techniques relating to plant physiology | 5 | |
| Exam | AS2 | Test | 20 | |
| Exam | AS4 | Exam on plant physiology experiments | 15 | 2 |
| Report | AS5 | Practical training report | 25 | |
| Practice | AS6 | Practical skills in plant physiology | 10 | |

Aims

Plant physiology is a science that studies the law of plant life activity. Plant life activity is a comprehensive process of substance metabolism, energy transformation, morphogenesis, information transmission and type variation. The module aims to provide students with an understanding of the basic theories and concepts of plant physiology and explores new progress of modern plant physiology and agricultural production. Through practical experiments, students will have the opportunity to master the basic theory and experimental technology of plant physiology.

Learning Outcomes

After completing the module the student should be able to:

- 1 Explain the basic theory and concept of plant physiology.
- 2 Describe the application of plant physiology to plant research and agricultural production by contact with the actual agricultural production.
- 3 Demonstrate the basic experimental principles and techniques of plant physiology.
- 4 Analyse and solve problems and develop preliminary scientific research ability.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

| | | | | |
|----------|---|---|---|---|
| Exam | 1 | 2 | 3 | 4 |
| Test | 1 | 2 | 3 | 4 |
| Exam | 1 | 2 | 3 | 4 |
| Exam | 1 | 2 | 3 | 4 |
| Report | 1 | 2 | 3 | 4 |
| Practice | 1 | 2 | 3 | 4 |

Outline Syllabus

The module covers plant physiology including the structure and function of plant cells, water metabolism, mineral nutrition, photosynthesis, respiration, transportation and distribution of organic matter in plants, active substance of plants, vegetative growth of plants, reproductive physiology of plants, physiology of maturation and ageing of plants, and physiology of adversity of plants. Practicals include basic experiments in water, mineral, photosynthesis, respiration, growth, senescence, resistance, growth determination, stress resistance identification and other scientific research simulation training.

Learning Activities

The module content will be delivered through lectures and practical activities.

Theoretical lectures will provide appropriate subject knowledge to support practical application.

Notes

The module is for students to develop an understanding of the biotechnology developments, principles and application in physiology. Students will also develop basic practical skills in plant physiology.