

Liverpool John Moores University

Title: Crop Breeding
Status: Definitive
Code: **5502YAUBIO** (127887)
Version Start Date: 01-08-2021

Owning School/Faculty: Biological and Environmental Sciences
Teaching School/Faculty: Yunnan Agricultural University

Team	Leader
Katie Evans	Y

Academic Level: FHEQ5 **Credit Value:** 20 **Total Delivered Hours:** 34
Total Learning Hours: 200 **Private Study:** 166

Delivery Options

Course typically offered: Semester 1

Component	Contact Hours
Lecture	32

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Exam	50	2
Test	AS3	Coursework	20	
Report	AS2	Case study	30	

Aims

Crop breeding is a science to study the theory and method of crop breeding, and it is one of the main professional courses of agronomy. This module aims to provide students with an opportunity to master the basic theory, general principles and breeding methods of crop breeding, and lay a foundation for future work related to the breeding of good varieties of crops.

Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the principles of crop breeding.
- 2 Apply basic knowledge of crop breeding for scientific research, breed selection and reproduction.
- 3 Apply crop breeding knowledge to solve specific problems in production practice.

Learning Outcomes of Assessments

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

Exam	1	2	3
Test	1	2	3
Report	1	2	3

Outline Syllabus

The module provides an understanding of crop breeding including methods and variety types, germplasm resources, breeding objectives, introduction and selection breeding, cross breeding, backcross breeding, mutation breeding, distant cross breeding, ploidy breeding, heterosis utilisation, male sterility and their hybrids. Variety breeding, resistance to pest and disease breeding, resistance breeding, population improvement and recurrent selection, cell engineering and crop breeding, transgenic technology and crop breeding, molecular marker-assisted selection breeding, rice breeding, maize breeding, wheat breeding, Yunnan Road Medicinal herbs breeding, flower breeding, and vegetable breeding.

Learning Activities

The module content will be delivered through a series of lectures.

Notes

The module is designed to allow students to master the basic theory, general principles and breeding methods of crop breeding, and provides an opportunity to apply knowledge to solve specific problems in production practice.