Liverpool John Moores University

Title:	Genetics
Status:	Definitive
Code:	**4504YAUBIO** (127885)
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:**	148
Total Learning Hours:	200	**Private Study:**	52		

Delivery Options
Course typically offered: Semester 2

Component	Contact Hours
Lecture	120
Practical	24

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Exam based on general genetics	25	2
Practice	AS2	Laboratory experiment	10	
Exam	AS3	Test based on general genetics	10	
Test	AS4	Coursework based on general genetics	5	
Exam	AS5	Exam based on molecular genetics	30	2
Exam	AS6	Test based on molecular genetics	10	
Test	AS7	Coursework based on molecular genetics	10	

Aims

The aim of the module is for students to develop an understanding of the basic laws of biological heredity and variation, along with basic theories of molecular genetics. Students will develop an understanding of the basic attributes of genes and genomes. The module also allows students to broaden their knowledge of genetics and improve their experimental skills in heredity research. An understanding of the basic theories will support the ability of students to engage with appropriate practical sessions, and to apply this knowledge to scientific research.

Learning Outcomes

After completing the module the student should be able to:

1	Describe basic theories and concepts of general and molecular genetics.
2	Recognise the application of general and molecular genetics into research and development within the field.
3	Describe the basic experimental principle and technology of general genetics.

Learning Outcomes of Assessments

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

Exam	1	2	3
Practice	1	2	3
Exam	1	2	3
Test	1	2	3
Exam	1	2	3
Exam	1	2	3
Test	1	2	3

Outline Syllabus

The module content will include the three basic laws of genetics, basic theories of quantitative genetics, heterosis and its genetic theory, identification and repair of gene mutation, chromosome structure and quantitative variation, cytoplasmic genetics, population genetics and biological evolution. The module will cover basic attributes of genes and genomes; the types and characteristics of genetic information, and their modes of storage and transmission; the molecular mechanism of gene expression regulation; the types and characteristics of genetic markers, the methods and principles of genome mapping; mutation and repair and recombination mechanism of genes; plant development and its molecular mechanisms.

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 designed to provide an understanding of the basic theories and concepts of general and molecular genetics, along with development of basic experimental skills.