

### Module Information

2022.01, Approved

#### Summary Information

Module Code	4109BMBMOL
Formal Module Title	Genetics and molecular biology
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 4
Grading Schema	40

#### Learning Methods

Learning Method Type	Hours
Lecture	32
Practical	9
Workshop	8

#### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
JAN-CTY	CTY	January	12 Weeks

#### Aims and Outcomes

Aims	To enable students to understand the importance of the molecular mechanisms underpinning molecular biology. This will then allow for the introduction of omics and model organisms.
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**After completing the module the student should be able to:**

#### Learning Outcomes

Code	Number	Description
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MLO1	1	Demonstrate a knowledge and understanding of the molecular mechanisms of DNA replication, transcription and translation processes.
MLO2	2	Demonstrate familiarity with the mechanisms of DNA damage and repair.
MLO3	3	Describe Mendelian and non-Mendelian inheritance in humans.
MLO4	4	Collect, interpret and present genetic and biological data.

## Module Content

Outline Syllabus	Genetics: Mendelian genetics, principles of inheritance, structure and function of genes, human variation, evolution, and population biology. Basic molecular biology: DNA structure/function, histones, prokaryotic and eukaryotic DNA replication, prokaryotic and eukaryotic transcription, translation, operons, post translational modification, DNA repair. An introduction to omics, model organisms, and recombinant DNA technology. Data analysis using R.
Module Overview	
Additional Information	The module will provide an introduction to the aspects of molecular biology and genetics which underpin further study of Biomedical Science. Material delivered in lectures will be supported with practical classes relating to molecular biology and genetics.

## Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	MCQ exam	50	1	MLO1, MLO2, MLO3
Practice	Practical class with assessment	50	0	MLO3, MLO4

## Module Contacts