

Module Information

2022.01, Approved

Summary Information

Module Code	6502YAUZOO
Formal Module Title	Applications of Genetics in Health and Disease
Owning School	Biological and Environmental Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

Teaching Responsibility

LJMU Schools involved in Delivery
Biological and Environmental Sciences

Learning Methods

Learning Method Type	Hours
Lecture	28
Practical	26

Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
SEP-PAR	PAR	September	12 Weeks

Aims and Outcomes

Aims	This module aims to teach students about methodological approaches in genetics and genomics, applicable to the study of health and disease of humans, animals and plants. Understanding the genetics of organisms is important to understand their biology, as genetic factors influence major physiological processes and phenotypes. In addition, epigenetics (non-genetic modifications to the genome) and meta-genetics (the genetics of associated organisms such as bacterial communities) play important roles. A range of methodological approaches can be applied to study these things and these will be covered in the module. Genetic factors influence major physiological processes such as cancer, behaviour, development and ageing in humans (and biological model systems). Therefore, understanding these is important to understand human, animal and plant biology and health.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Evaluate the different methodological approaches in genetic/genomic study of health and disease
MLO2	2	Evaluate the roles of genetics and genomics in health and disease processes.
MLO3	3	Discuss the genetic mechanisms involved in biological processes connected to health and disease.
MLO4	4	Evaluate the roles of genetics and genomics in animal and plant biology.
MLO5	5	Discuss the genetic mechanisms involved in biological processes connected to animals and plant science

Module Content

Outline Syllabus	This module aims to investigate how genetics and genomics can be applied to the study of humans, animals and plants. Genetic factors influence major physiological processes and phenotypes. In addition, epigenetics (non-genetic modifications to the genome) and meta-genetics (the genetics of associated organisms such as bacterial communities) play important roles. Therefore, understanding these is important to understand animal, human and plant biology. The aims and learning outcomes of this module will be addressed through a series of lectures that reflect contemporary themes in the field. Students will learn about the roles of genetics in the study of health.
Module Overview	
Additional Information	This module is for individuals to develop an understanding of the applications of genetics in human, health and disease. This module is also for individuals to develop an understanding of the approaches to studying genetics in human, animal and plant biology.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Presentation	Poster	32	0	MLO1, MLO2, MLO3
Exam	Written exam 1	34	2	MLO1, MLO2, MLO3
Exam	Written exam 2	34	2	MLO4, MLO5

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
Gareth Weedall	Yes	N/A

Partner Module Team

Contact Name	Applies to all offerings	Offerings
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