

Medical Genetics

Module Information

2022.01, Approved

Summary Information

Module Code	7102BSBMOL
Formal Module Title	Medical Genetics
Owning School	Pharmacy & Biomolecular Sciences
Career	Postgraduate Taught
Credits	20
Academic level	FHEQ Level 7
Grading Schema	50

Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

Learning Methods

Learning Method Type	Hours
Lecture	20
Practical	10
Tutorial	2
Workshop	6

Module Offering(s)

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

Aims and Outcomes

Aims	To provide an overview of the roles and investigations of genes and disease.
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After completing the module the student should be able to:

Learning Outcomes

Code	Number	Description
MLO1	1	Demonstrate a reflective understanding of the genetic basis of disease and its investigation.
MLO2	2	Apply principles of interpretation to genetic data.
MLO3	3	Critically evaluate the literature on genetic disease and research techniques.

Module Content

Outline Syllabus	Lectures: The module provides a critical appreciation of the human genome, its regulation, functional significance of gene mutations and current approaches of identification of human genetic disorders. Topics covered include: The human genome, epigenetics, genomic medicine, high throughput genomic techniques, bioinformatics, inborn errors of metabolism, molecular medicine, stem cells, molecular basis of host-pathogen interaction, immunogenetics and disease. Workshops: Gene mapping: pedigree analysis and gene mapping using recombination frequencies. Practical: Analysis of single nucleotide polymorphisms (SNPs) by qPCR. The practical sessions will involve the use of recombinant DNA technologies (restriction endonucleases, PCR, and electrophoretic DNA analyses) to identify and characterise selected SNPs within the human genome. Students will be expected to research the literature and design experimental regimes based on information relating to the methodology. Some method development will be required, and the students will be expected to have carried out DNA sequence analyses and literature search on the SNPs and DNA sequence before starting the practical work. Tutorials Two pastoral tutorials will be provided.
Module Overview	This module aims to develop a reflective understanding of the genetic basis of disease and its investigation.
Additional Information	This module aims to develop understanding of the contribution of chromosomes and genes to health and disease. A range of disorders will be covered with an introduction to relevant techniques and therapeutic approaches.

Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Centralised Exam	Examination	50	2	MLO1, MLO2, MLO3
Report	Lab report	50	0	MLO3, MLO1

Module Contacts

Module Leader

Contact Name	Applies to all offerings	Offerings
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Giles Watts	Yes	N/A
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Partner Module Team

Contact Name	Applies to all offerings	Offerings
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