

## Module Information

2022.01, Approved

### Summary Information

Module Code	6111BMBMOL
Formal Module Title	Clinical immunology and medical microbiology
Owning School	Pharmacy & Biomolecular Sciences
Career	Undergraduate
Credits	20
Academic level	FHEQ Level 6
Grading Schema	40

### Teaching Responsibility

LJMU Schools involved in Delivery
Pharmacy & Biomolecular Sciences

### Learning Methods

Learning Method Type	Hours
Lecture	32
Practical	14
Workshop	8

### Module Offering(s)

Display Name	Location	Start Month	Duration Number Duration Unit
			12 Weeks

### Aims and Outcomes

Aims	This module will enable students to develop an in depth understanding of the origins, functions and aberrations of the immune system, microbial interactions with the immune system and infectious diseases and the strategies employed for the prevention, diagnosis, treatment and research of immune and infectious diseases.
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**After completing the module the student should be able to:**

### Learning Outcomes

Code	Number	Description
MLO1	1	Critically discuss the generation of immune responses and their disorders.
MLO2	2	Critically discuss microbial mechanisms of disease.
MLO3	3	Explain strategies used by pathogens for immune evasion.
MLO4	4	Critically discuss the role of the clinical and research laboratory in diagnosis, treatment and investigation of immune and infectious disorders.
MLO5	5	Critically discuss procedures for control of infectious diseases.

### Module Content

Outline Syllabus	In both immunology and microbiology the module will further develop material introduced at levels 4 and 5 and in core modules at level 6 with particular reference to Clinical Immunology and Clinical Microbiology. Thus, for example the principles of the function and measurement of effectors of the immune response will be extended to include the causes and consequences of a wider range of abnormal immune function, neoplastic diseases and transplantation reactions together with their detection, diagnosis, treatment and monitoring. Immunological techniques used in clinical and research laboratories will be explained, alongside strategies for prophylaxis and immunotherapy while attention will be given to showing the gross structure and ultrastructure of normal cells and tissues and the structural changes which may occur during disease, and an understanding of immunogenetics will be included. The focus of the microbiology will be to develop understanding of the pathogenic mechanisms of a wide range of microorganisms, including implications for public health microbiology. To support this, the laboratory investigation of a range of infectious diseases, including isolation and identification of microorganisms and approaches to anti-microbial and anti-viral therapy (including drug resistance) and infection control will be covered. The practicals in this module are based on the principles of the work undertaken by Biomedical Scientists in the NHS e.g. Clinical Flow cytometry. They will give the student the necessary insight, skills and experience to meet the work place needs of the NHS, where in many instances routine analyses are automated. They have also been developed in consultation with HCPC registered Biomedical Scientists who have confirmed that these practicals are suitable and applicable for provision of functional knowledge and practical insight into the NHS workplace.
Module Overview	
Additional Information	This module provides students with advanced knowledge of pathogens, infectious diseases, immune responses and disorders of immunity. This module extends the coverage and detail provided on the Immunology and Infection module (5111BMBMOL). The syllabus will encompass basic and clinical Immunology and basic and clinical Microbiology. Material covered in this module has links, in part, with other themes such as Transfusion science, Haematology, and Cancer. Where appropriate signposting of such material is provided to foster a sense of integrated learning for the student across the modules. Since final year students should be prepared for frontline developments in basic and clinical research the module also undertakes horizon scanning of the newest paradigms and discoveries. While the focus is on the delivery of core knowledge, signposting of research that is active in these areas and that is changing our understanding or is awaiting ratification and may be in the text books soon, is a salient endeavour. This will engender a feeling of preparedness to hear about the new developments or controversies in these fields of research and abrogate anxiety about contemporary knowledge.

### Assessments

Assignment Category	Assessment Name	Weight	Exam/Test Length (hours)	Module Learning Outcome Mapping
Test	Online Practical	50	0	MLO1, MLO4
Centralised Exam	Module Examination	50	1	MLO1, MLO2, MLO3, MLO4, MLO5

## Module Contacts

### Module Leader

Contact Name	Applies to all offerings	Offerings
Darren Sexton	Yes	N/A

### Partner Module Team

Contact Name	Applies to all offerings	Offerings
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