

## Liverpool John Moores University

Title: ADVANCED IMMUNOLOGY AND INFECTION  
Status: Definitive  
Code: **6106BMBMOL** (122476)  
Version Start Date: 01-08-2021

Owning School/Faculty: Pharmacy & Biomolecular Sciences  
Teaching School/Faculty: Pharmacy & Biomolecular Sciences

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**Academic Level:** FHEQ6      **Credit Value:** 20      **Total Delivered Hours:** 60  
**Total Learning Hours:** 200      **Private Study:** 140

### Delivery Options

Course typically offered: Semester 2

Component	Contact Hours
Lecture	35
Practical	15
Workshop	8

**Grading Basis:** 40 %

### Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	Exam	Exam (4 from 6 questions)	50	2
Report	Report	Practical Based Report	50	

### 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.*

## **Learning Outcomes**

After completing the module the student should be able to:

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

## **Learning Outcomes of Assessments**

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

Examination	1	5	4	3	2
Practical Report	1	4			

## **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.*

## **Learning Activities**

Lectures, workshops and Practicals

## Notes

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 (5103BMBMOL). 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.