

Module Specification

Module Title Module Code
Credit Value Level Mode of Delivery Semester B

Pre-requisite modules	Co-requisite modules	Overlapping modules
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1) Content Description

Provide a description of the module, as it will appear in the Module Directory and on the Student Information System (approx. 70-80 words).

The module will cover basic cellular and molecular aspects of immunology including development, innate immunity, pattern recognition of infection, antibodies, complement, cytokines, B cells, T cells, NK cells, dendritic cells, antigen presentation, MHC, vaccination, general viral immunology, hepatitis, HIV/AIDS, cancer, transplantation, hypersensitivity, autoimmunity, the specialised problems associated with protecting the gut, and immunology in the clinic.

The dynamic nature of the immune system and the need for extensive redundancy in the face of pressure from infectious diseases externally, and malignancy internally, will be emphasised. As the course proceeds we expect to be able to provide a glimpse of the current controversies and breakthroughs which make immunology one of the key medical and scientific disciplines. In the western world, where the high quality of public health, good nutrition, and vaccination have minimised the effects of infectious disease, we are now facing an epidemic of diseases where inappropriate immune responses to exogenous antigens (allergy) and self-antigens (autoimmunity) are themselves responsible for disease. Manipulating the immune system therapeutically holds the key to curing these diseases.

2) Module Aims

Specify the aims of the module, i.e. the broad educational purposes for offering this module.

The overall aim of the unit is to provide the student with a basic understanding of immunology with emphasis on the immunological basis of some common and well known diseases. We will balance basic knowledge of the underlying complexity of the immune system with the application of immunological knowledge to infectious diseases, cancer, inflammation and autoimmunity. At the end of this module students should have a good understanding of the principals underlying immunology and its medical significance.

3) Learning Outcomes

Identify the learning outcomes for this module, i.e. knowledge, skills and attributes to be developed through completion of this module. Outcomes should be referenced to the relevant [QAA benchmark statements](#) and the [Framework for Higher Education Qualifications in England, Wales and Northern Ireland \(2008\)](#). The [SEEC Credit Level Descriptors for Further and Higher Education 2003](#) and [Queen Mary Statement of Graduate Attributes](#) should also be used as a guiding framework for curriculum design.

Academic Content:	
A1	To know the basic cellular and molecular effectors/components of a functional immune system and to know in detail the structure of antibodies
A2	To have a grasp of how antibodies mediate immunity and inflammation and to appreciate that pattern recognition receptors link innate and adaptive immunity

A3	To appreciate the different functions of CD4 and CD8 T cells, the T cell receptor, dendritic cells, the MHC, and antigen presentation
A4	To appreciate how T cells mediate immunity and inflammation and you understand that T cells regulate immune responses
A5	To appreciate the immunological basis for vaccination, transplant rejection, bacterial and viral immunity, HIV/AIDS, cancer, autoimmunity and hypersensitivity
A6	To have a grasp of the way in which immunology is important in the clinic and how immunologically-based treatments hold the key to controlling the diseases of the modern world

Disciplinary skills - able to:	
B1	For students, it is critical to have an appreciation of the need for complexity and redundancy in the immune system to combat the ever-present threat of infectious diseases, as is seen today with swine flu and 25 years ago with HIV
B2	Immunology does not easily fall into bite-sized chunks for learning; the answer to most immunological questions begins with "it depends". Learning therefore must be cumulative and interactive throughout the course

Attributes:	
C1	The module will enhance students' general scientific understanding of biomedicine and its experimental basis with reference to immunology
C2	They will see the real therapeutic applications of this knowledge, mostly in medicine. They will develop independent thought and iterative learning as the module progresses.

4) Reading List

Provide an indicative reading list for the module. This should include key texts and/or journals but **should not** be an exhaustive list of materials.

Janeway's Immunobiology , 8 th edition; Garland Science	- Highly Recommended
Kuby Immunology , 7 th edition; W.H. Freeman	- Highly Recommended
Case Studies in Immunology , 6 th edition; Garland Science	- Additional reading

5) Teaching and Learning Profile

Provide details of the method of delivery (lectures, seminars, fieldwork, practical classes, etc.) used to enable the achievement of learning outcomes and an indicative number of hours for each activity to give an overall picture of the workload a student taking the module would be expected to undertake. This information will form the Key Information Set for each undergraduate programme and will be used to populate the KIS widget found on the QMUL programme information pages. More information can be found [online](#) about KIS. You may also wish to refer to the [QAA guidance on contact hours](#) when completing this section.

Activity Type	KIS Category	Time Spent (in hours)
Lecture	Scheduled	22
Tutorials	Scheduled	5
Self-Directed Learning	Scheduled	8
Total		35

Specify the total module notional study hours. This should be a total of the hours given for each activity. The notional study hours for each academic credit point is 10. A 15 credit point module therefore represents 150 notional study hours.

Activity Type	Total Time Spent (in hours)	Percentage of Time Spent
Scheduled learning and teaching	35	23.3

Placement	0	0
Independent Study	115	76.7
Total	150	100

Use the information provided in the box above to specify the total time spent and the percentage time spent in each category of teaching and learning activity.

6) Assessment Profile

Provide details of the assessment methods used to assess the achievement of learning outcomes.

Description of Assessment	Assessment Type	KIS Category	Duration/Length	Percentage Weighting	Final element of assessment	Qualifying Mark
Examination	Exam	Coursework	2 Hours	75%	Yes	
Essay	Written Assessment	Coursework	1000 words	15%	No	
Coursework	MCQ1	In course assessment		5%	No	
Coursework	MCQ2	In course assessment		5%	No	

Final element of assessment: The assessment that takes place last. **There should normally be only one element of assessment marked as final unless two assessment or submission dates occur on the same day.**

Qualifying mark: A specified minimum mark that must be obtained in one or more elements of assessment in order to pass a module. **This is in addition to, and distinct from, the requirement to achieve a pass in the module mark to pass the module.**

Reassessment

Provide details of the reassessment methods used, specifying whether reassessment is either standard reassessment or synoptic reassessment.

- Standard Reassessment
 Synoptic Reassessment

Synoptic reassessment details (if you have indicated synoptic reassessment above, please give details)		
Brief Description of Assessment	Assessment Type	Duration/Length of Examination/ Coursework
Examination	Exam	2 Hours