



MODULE SPECIFICATION

Part 1: Information			
Module Title	Applied Immunology		
Module Code	USSJ6A-30-M	Level	Level 7
For implementation from	2020-21		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Health & Applied Sciences	Field	Applied Sciences
Department	HAS Dept of Applied Sciences		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description
<p>Features: Module Entry requirements: Study of immunology at undergraduate degree level</p> <p>Educational Aims: See Learning Outcomes</p> <p>Outline Syllabus: Molecular immunology:</p> <p>The structure of antibodies and genetics of antibody diversity. Production of cytokines, modes of action, types of cytokine. T helper cell sub-populations. Role of cytokines in T and B cell activation, humoral and cell mediated immunity. Intracellular receptor signalling.</p> <p>Cellular immunology:</p> <p>Cell-cell interactions. Receptors involved in cell activation pathways. Antigen presentation. Mucosal immunology. Microbial immunology and vaccination. Induction of tolerance; central and peripheral. Tolerance and autoimmunity. Autoimmune disease and allergy; induction and disease mechanisms. Transplant rejection and immunosuppression</p> <p>Applied immunology:</p>

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Application of antibodies in immunodiagnosics and current technology. Antibody engineering and use of monoclonal and other synthesized antibodies. Applications of antibodies and cytokines in the treatment of diseases. Chemotherapy.

Teaching and Learning Methods: Teaching will comprise a mix of formal lecture, group discussion, tutorials and data interpretation exercises. For each hour of scheduled study students are advised to undertake 9 hours of independent study - as this is an M level module the amount of guidance on activities will be reduced as the year progresses so that students develop independent learning skills, and gain the chance to study topics from within the module in alignment with their areas of interest. The interactive nature of the M level tutorials will mean that students will need to spend time each week preparing for the next session. The students will be advised to allow at least 50 hours of the independent study time working on the coursework for the module (which contributes 50% of the module mark).

Students on the module will also be required to attend a conference week at an appropriate time in the year (dependent on changes to the academic calendar). During this week a range of visiting lecturers will be brought in to give keynote lectures (for example based on their clinical practice) or research focused lectures that map to the syllabus content. The conference week will also give students an experience of what it is like to attend a scientific conference, with an intensive schedule of talks across the week to be attended. Engagement with the conference week will be assessed as part of USSJYR-15-M (Advanced Topics in Biomedical Science) but the lecture content of conference week will augment this module as well.

Scheduled learning includes lectures, seminars, tutorials, project supervision, and may include:- demonstration, practical classes and workshops; fieldwork; external visits; work based learning; supervised time in studio/workshop.

Independent learning includes hours engaged with essential reading, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below. Scheduled sessions may vary slightly depending on the module choices made.

Part 3: Assessment

The MSc BMS Programme has a programme level assessment strategy (see Programme Specification appendix 1), and all modules have their assessments designed to relate to that document. For parity across all routes the specialist subject modules on the MSc BMS programme have a 50:50 weighting of course work to final exam – this module is one of the specialist modules. Therefore the coursework has been designed in line with the programme assessment strategy.

This module has coursework designed to test the ability of students to express their chosen specialist discipline in both written form and in oral form.

The coursework essay is similar in style to a review article in a journal, and the presentation is designed to replicate those given at conferences. Both are highly relevant assessments for higher level science graduates to have undertaken, preparing them for future academic style writing and presentation in their professional lives.

The assessments are marked to the BBAS standard PG marking criteria, and students are fully briefed on the assessment both in writing and through a tutorial session. Students also develop several transferable skills during this assessment including negotiation (they are allowed to pick their own title and refine it), critiquing of published literature, scientific writing etiquette, and editing documents to a high editorial standard.

The exam enables students to demonstrate a breadth of knowledge that it would be reasonable for future employers to see in a Masters graduate in relation to their chosen specialism.

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First Sit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		20 %	Extended essay (2000 words)
Presentation - Component B		30 %	Oral Presentation and defence (20 minutes) and Associated Abstract
Examination (Online) - Component A	✓	50 %	Online examination (24 hours)
Resit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		20 %	Extended Essay (2000 words)
Presentation - Component B		30 %	Presentation Report and Slides
Examination (Online) - Component A	✓	50 %	Online examination (24 hours)

Part 4: Teaching and Learning Methods

Learning Outcomes	On successful completion of this module students will achieve the following learning outcomes:	
	Module Learning Outcomes	Reference
	The role, application, modification and or generation of antibodies	MO1
	The role of cytokines in the regulation of the immune system	MO2
	The origin of autoimmunity in the light of current research	MO3
	The role of cell-cell interactions in the immune system	MO4
	Developments in immunodiagnosis and immunotherapy	MO5
	Dysfunction of the immune system and associated disease states	MO6
Evidence their ability to produce written work and oral presentations in their chosen specialism to the standard expected at M level	MO7	
Contact Hours	Independent Study Hours:	
	Independent study/self-guided study	234
	Total Independent Study Hours:	234
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	66
	Total Scheduled Learning and Teaching Hours:	66
	Hours to be allocated	300
	Allocated Hours	300

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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p>https://uwe.rl.talis.com/modules/ussj6a-30-m.html</p>
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Part 5: Contributes Towards

This module contributes towards the following programmes of study:

Biomedical Science (Immunology) [Sep][FT][Frenchay][1yr] MSc 2020-21

Biomedical Science [Sep][FT][Frenchay][1yr] MSc 2020-21