



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Haematology		
Module Code	USSJYV-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><b>Features:</b> Module Entry requirements: Study of haematology at undergraduate degree level</p> <p><b>Educational Aims:</b> See Learning Outcomes</p> <p><b>Outline Syllabus:</b> Physical and chemical requirements for optimal haematopoiesis throughout life:</p> <p>Content of the blood and bone marrow. Reference values. Ontogeny and sites of haematopoiesis. Regulation of haematopoiesis. Nutritional requirements.</p> <p>The anaemias:</p> <p>Classification systems. Megaloblastic anaemias. Iron deficiency and related anaemias. Normal erythrocyte structure and function. Red cell survival disorders. Haemoglobinopathies and the thalassaemia syndromes. Red cell enzymopathies.</p> <p>Haematological malignancy:</p> <p>Aetiology and the multi-hit hypothesis. Classification. Principles of investigation and diagnostic</p>

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criteria. Pathophysiology. Theoretical basis of cytotoxic chemotherapy and stem cell transplantation.

### Haemostasis:

Structure and contribution to haemostatic function of blood vessels, platelets, coagulation proteins and fibrinolytic proteins. Functional inter-relationships between the vascular, platelet, coagulation and fibrinolytic systems. Naturally occurring inhibitors of coagulation and fibrinolysis. Haemorrhagic conditions. The hypercoagulable state.

### Blood donation:

Principles of the selection, collection, separation, storage and transportation of donated blood components for transfusion. The bacteriology, virology and parasitology of diseases which can be transmitted by transfusion.

### Blood groups:

The major blood polymorphisms e.g. ABO, Rh, and selected other blood group systems. Blood group structure, function and relevance to transfusion.

### Compatibility of blood:

In vitro antibody-antigen reactions for the selection of compatible blood. Optimisation of detection techniques for in vitro antibody-antigen reactions.

### Immunohaematology:

Laboratory investigation of serological reactions to aid diagnosis of immunohaemolytic disease and immunological transfusion reactions. Strategies for the prophylaxis of immunohaemolytic disease.

### Transfusion therapy:

The appropriate use of blood components. Hypersensitivity responses to transfusion.

**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.

### Contact Hours:

Formal lectures – 2 hours per week during teaching weeks (two semesters)

M level tutorials – 1 hour per week for 20 weeks

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### 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.

Specialist module coursework is 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. This will be an online exam with a 24 hour submission window.

First Sit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		25 %	3000 word essay
Presentation - Component B		25 %	Poster presentation (20 minutes including defence)
Examination (Online) - Component A	✓	50 %	Online examination (24 hours)
Resit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		50 %	5000 word extended essay
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:	
	<b>Module Learning Outcomes</b>	<b>Reference</b>
	Discuss the processes involved in the maintenance of normal blood composition and function	MO1
	Discuss critically the biological bases of selected haematological disease states	MO2
	Interpret bold parameters that characterise selected disease states	MO3
Outline the nature and significance of investigative haematology and its role in the diagnostic process	MO4	

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	Describe the nature and significance of human blood groups of major clinical importance and discuss barriers they represent for transfusion	MO5
	Discuss the strategies which underpin optimal utilisation of donated blood	MO6
	Select appropriate methods for the demonstration of different antigen-antibody reactions and investigate the chemical and physical variables which govern their sensitivity	MO7
	Discuss the biological bases of the different immunohaemolytic disease states	MO8
	Utilise electronic information sources effectively as learning aids in haematology and transfusion and be able to critically appraise relevant scientific literature	MO9
Contact Hours	<b>Independent Study Hours:</b>	
	Independent study/self-guided study	234
	<b>Total Independent Study Hours:</b>	234
	<b>Scheduled Learning and Teaching Hours:</b>	
	Face-to-face learning	66
	<b>Total Scheduled Learning and Teaching Hours:</b>	66
	<b>Hours to be allocated</b>	300
	<b>Allocated Hours</b>	300
Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p><a href="https://uwe.rl.talis.com/modules/ussjyv-30-m.html">https://uwe.rl.talis.com/modules/ussjyv-30-m.html</a></p>	

### Part 5: Contributes Towards

This module contributes towards the following programmes of study:

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

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