MODULE SPECIFICATION

Part 1: Information			
Module Title	Studies in the Biology of Disease		
Module Code	USSKAT-30-2	Level	2
For implementation from	September 2018		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Health and Applied Sciences (HAS)	Field	Applied Sciences
Department	Department of Applied Sciences (DAS)		
Contributes towards	BSc(Hons) Biomedical Science BSc(Hons) Healthcare Science MSci Biomedical Science BSc(Hons) Biomedical Science with Foundation year BSc(Hons) Healthcare Science with Foundation year MSci Biomedical Science with Foundation year		
Module type:	Standard		
Pre-requisites	USSKA7-30-1 Pathophysiology of Disease		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements			

Part 2: Description
Studies in the Biology of Disease is a pre-requisite for and underpins every IBMS core module at Level 3. Successful completion of this module is mandatory for IBMS accreditation. Students will carry out case studies selected to illustrate the multifactorial and integrated nature of disease and its laboratory investigation. Indicative content includes: -Homeostasis and malignant disease: Central importance of homeostasis, mechanisms of control and the consequences of failure. Concepts of disease and normality, reference ranges Mechanisms of cancer development at a cellular level, haematological disorders and diagnosis and treatment -Cellular Pathology: Microscopic analysis of cells and tissues. Preparative processes for microscopical analysis of tissues and cells. Cell and tissue stabilisation. Histological and cytological features of the disease state. Clinical laboratory applications of cellular pathology; its role in diagnosis, prognosis and prediction. -Clinical Biochemistry: diagnosis, screening and monitoring of disease through qualitative and quantitative evaluation. Diagnosis of Liver, Cardiac diseases and endocrine disorders. Drug toxicity and drug monitoring. Haematology and Transfusion Science: haematology of normal and disease states, haemoglobinopathies and thalassaemias, anaemias, leukaemias and thrombosis. Laboratory investigation of disease states. The role of the laboratory in monitoring of therapy. Immunohaematology; including identification of blood group antigens, methods for antibody detection and compatibility testing and safety aspects of blood transfusion.

-Medical Microbiology: relationship between host and microorganisms, mechanisms of pathogenicity, transmission and response to infection, factors influencing susceptibility, epidemiology, laboratory investigation of infectious diseases and vaccination.
-Immunology: structure and function of the immune system, innate and acquired immunity, inflammation, tolerance. Structure and function of antibodies, immunoassay and radioimmunoassay, ELISA, SDS-PAGE and Western blotting. Autoimmunity and disease states. Immunodeficiency and AIDS. Transplantation immunology, cancer immunology and related immunotherapy. Professional/Generic Aspects: Requirements for registration, the HPC and IBMS. Standards that govern pathology laboratory practice, health & safety, ethics. Quality assurance and quality control, sources of error.
-Medical Genetics: introduction to key technologies used in the clinical assessment of disease, and underlying genetic causes of selected disorders.

Part 3: Assessment: Strategy and Details

The aim of the case studies is to introduce students to the investigative nature of biomedical science and to show how the individual disciplines integrate and aid the differential diagnosis. The task is to interpret the data utilizing information learned during the module backed up by information gleaned from reading around the topic to make a diagnosis and answer specific questions set.
The three elements of Component B are assessments of laboratory session write-ups, one per Semester (1000-words), and engagement activities (online quizzes associated with the practical sessions). Students will need to think about the importance of the presenting symptoms, the initial results obtained by the GP and any further investigations. Students will need to think carefully on the differential diagnosis, how certain results rule out potential diagnosis or narrow the potential possibilities. Having made a diagnosis, they should think about potential treatment options. These will be articulated in written format within Component B (elements 1 & 2). Two of the six case study-based practical sessions will be assessed but the exact sessions will not be disclosed to the students beforehand. This will enable the students to demonstrate data interpretation and good laboratory practice, whilst providing an opportunity to practice case study-based learning and technical skills. Students are prepared for these assessments with a lectorial where they are presented with examples of previous answers to reflect on the best approach. Patient and end-user involvement has enhanced learning experience and be facilitated through integration into the case study-based laboratory sessions.
The controlled component is a written exam. The exam will contain questions relating to the course material, providing students with an opportunity to demonstrate both their knowledge on a broad range of topics, and more in-depth knowledge.
Formative feedback is available to students throughout the module through group discussion at the end of practical classes and lectures. Students are provided with formative feed-forward for their exam through a revision and exam preparation session prior to the exam and through the extensive support materials supplied through Blackboard.

Identify final timetabled piece of assessment (component and element)	Component A1

	A:	**B**:
% weighting between components A and B (Standard modules only)	**50**	**50**

First Sit

Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Examination – 2 hours	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Data analysis case-study write-up 1, 1000 words	40
2. Data analysis case-study write-up 2, 1000 words	40
3. Practical preparation quizzes	20

Resit (further attendance at taught classes is not required)

Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**

1. Examination – 2 hours	100
Component B **Description of each element**	Element weighting (as % of component)
1. Data analysis case-study write-up 1, 1000 words	40
2. Data analysis case-study write-up 2, 1000 words	40
3. Practical preparation quizzes	20

Part 4: Learning Outcomes & KIS Data

Learning Outcomes

On successful completion of this module students will be able to:
-Review the mechanisms responsible for disease and disorders in the human body (Component A and Component B, element 1 & 2 & 3) -Demonstrate knowledge of the pathophysiology, investigation and diagnosis of
selected diseases (Component A and Component B, element 1 & 2 & 3)
-Develop the ability to integrate the specialist areas of biomedical science into the context of a coherent case study approach (Component A and Component B, element 1 & 2
-Gain experience of clinical practice and data analysis through engagement with practical sessions within the context of a clinical case study (Component B, element 1 & 2)

Key Information Sets Information (KIS)

Further detail on Key Information Sets and how the University is implementing its requirements can be found here. This also contains further guidance on how to complete the information requested below.

A KIS is required for every undergraduate programme (including integrated Masters and foundation degrees) so please fill this section if this module will contribute to an undergraduate programme.

Contact Hours

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
300	72	228	0	300

Total Assessment

The table below indicates as a percentage the total assessment of the module which constitutes a;

Written Exam: Unseen or open book written exam
Coursework: Written assignment or essay, report, dissertation, portfolio, project or in class test
Practical Exam: Oral Assessment and/or presentation, practical skills assessment, practical exam (i.e. an exam determining mastery of a technique)

Total assessment of the module:	
Written exam assessment percentage	50%
Coursework assessment percentage	50%
Practical exam assessment percentage	0%
	100%

Reading List	Below is the link to the module reading list. https://uwe.rl.talis.com/lists/39CB6415-9BB7-FEC4-4997-3696C1A56946.html Further information and guidance on reading lists and digitisation are available at https://intranet.uwe.ac.uk/tasks-guides/Collection/using-readinglists

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First CAP Approval Date	24 March 2015			
Revision ASQC Approval Date	17 January 2018	Version	2	*RIA 12500*