ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Basic Data						
Module Title	Healthcare Science in Practice (CPD)					
Module Code	USSKDC-30-2		Level	2	Version	1
Owning Faculty	Health & Applied Sciences		Field	Biological, Biomedical & Analytical Sciences		
Contributes towards	Continuous Professional Development (CPD)					
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard	
Pre-requisites	None		Co- requisites	None		
Excluded Combinations	None		Module Entry requirements	N/A		
Valid From	September 2015		Valid to	September 2021		

CAP Approval Date	20/11/2014

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: **Blood and Tissue Sciences** • Review the mechanisms responsible for disease and disorders in the human body [A] • Demonstrate knowledge of the pathophysiology, investigation and diagnosis of selected diseases [A, B] • Develop the ability to integrate the specialist areas of biomedical science into the context of a coherent case study approach [B] **Immunology & Disease** • Demonstrate basic knowledge of the cellular and molecular aspects of immunology [A] • Distinguish the role of humoral and cellular mechanisms in response to a wide spectrum of pathogens and antigens [A] • Recognise how antibodies and effector cells cause tissue damage in selected immune mediated diseases [A] • Demonstrate a basic understanding of the role of the immune system in blood transfusion and transplantation [A] • Associate particular symptoms with selected diseases of the immune system [A, B] • Evaluate important laboratory immunological techniques and their theoretical bases [A, B] • Analyse and interpret laboratory data [B]
Syllabus Outline	**Blood and Tissue Sciences** 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. **Immunology and Disease** *Basic immunology* - The host and environment, antigens, foreignness, innate and acquired immunity - Innate immune mechanisms, the problem of immune recognition, immunogens and antigens - Recognition of self and tolerance - B cells, epitopes, and antibodies - Recognition of antigens by T cells, the major histocompatibility complex, and antigen presentation - Cell-mediated immune reactions - Basic structure of antibodies, antibody classes, isotypes, allotypes and idiotypes, monoclonal antibodies - Biological functions of antibodies and complement - Antigen–antibody interactions; detection and measurement of antibodies - Different types of immune cells and the lymphatic system - The humoral response, T–B cell interactions, cytokines and memory cells *Clinical immunology* - Antibody-mediated diseases: hypersensitivity reactions, red cell antigens and transfusion reactions, transplantation - Humoral and cell responses to bacteria, viruses, fungi and parasites - Prophylaxis and vaccines - Rogue T lymphocytes in autoimmunity such as multiple sclerosis, rheumatoid arthritis and diabetes - The immunology of cancer and immunodeficiency diseases, including AIDS - Immunoassay, ELISA, SDS-PAGE and Western blotting
Contact Hours	There will be 1 week of contact time at UWE at the beginning of Semester 1 (and one day in the January assessment period). Included in this block week are laboratory practicals and workshops. The contact time will equate to 26 hours. In addition to the allocated hours on campus learning, students will engage in synchronous and asynchronous online learning. This will comprise a total of 46 hours of online engagement through a combination of lectures, synchronous online tutorials, synchronous and asynchronous discussions, online quizzes, and collaborative group work.
Teaching and Learning	**Scheduled learning:** During block periods at UWE, lectures, seminars, tutorials, and practical classes will be delivered. When in the work place scheduled contact

Methods	time will be assigned for interactive online discussion and for online 'office hours' for more immediate responses to queries relating to the module.
	Independent learning: Using defined TEL strategies includes hours engaged with essential reading, case study preparation, 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 unit choices made.
	Work-based learning: Students will learn subject specific content during work-based learning as well as consolidating knowledge through seeing the application of subject in practice during their employment and employer-based training.
Key Information Sets Information	Key Information Sets (KIS) are produced at programme level for all programmes that this module contributes to, which is a requirement set by HESA/HEFCE. KIS are comparable sets of standardised information about undergraduate courses allowing prospective students to compare and contrast between programmes they are interested in applying for.

Key Information Set - Module data

Number of credits for this module				30

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
300	72	78	150	300

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

Written Exam: Unseen written exam, open book written exam, In-class test
Coursework: Written assignment or essay, report, dissertation, portfolio, project
Practical Exam: Oral Assessment and/or presentation, practical skills assessment, practical exam

Please note that this is the total of various types of assessment and will not necessarily reflect the component and module weightings in the Assessment section of this module description:

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

| Reading Strategy | Students will be expected to access key recommended texts listed and to access the further reading. The student will be expected to purchase key texts as directed and to access further recommended reading provided as e-books and journals or as digitalised book chapters or journal articles, where free electronic access is not available. Such access will be provided via the library website and through Blackboard.
All students are encouraged to read widely using the library catalogue, a variety of remote access bibliographic and full text databases and Internet resources are |
|---|---|

	available. Guidance to some key authors and journal titles available through the Library will be given in the Module Guide and updated annually. Assignment reference lists are expected to reflect the range of reading carried out. Students are expected to be able to identify and retrieve appropriate reading. Support is available through the Library Services web pages, including interactive tutorials on finding books and journals, evaluating information and referencing.
Indicative Reading List	**Blood & Tissue Sciences** Ahmed, N., Dawson, M., Smith, C. and Wood, E. (2007) *Biology of Disease*. Abingdon: Taylor & Francis. The following text is highly recommended for professional aspects: Pitt, S.J. and Cunningham, J.M. (2009) *An Introduction to Biomedical Science in Professional and Clinical Practice*. Ames: Wiley-Blackwell. **Immunology and Disease** Male, D., Bronstoff, J., Roth, D.B. and Roitt, I. (2012) *Immunology.* 8th ed. Philadelphia: Elsevier. Owen, J. Punt, J. and Stranford, S. (2012) *Kuby Immunology.* 7th ed. New York: W.H. Freeman and Company.

Part 3: Assessment

Assessment Strategy	Component A (controlled condition) will take the form of a 2 hour examination. The examination will assess across the module curriculum to ensure an appropriate breadth and depth of knowledge. Component B comprises a case study to capture the content of online learning and of practical workshops delivered. This summative assessment will take the form of a poster defence. Interactive online lectures and supporting tutorials will use case-based investigations to enable students to engage in group discussions and explore their decision making processes ahead of their coursework submission. Formative feedback is available to students throughout the module through group discussions, and in workshops. 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. All work is marked in line with the Department's Generic Assessment Criteria and conforms to university policies for the setting, collection, marking and return of student work. Where an individual piece of work has specific assessment criteria, this is supplied to the students when the work is set. This assessment strategy has been designed following best practice on effective assessment from JISC (http://www.jisc.ac.uk/whatwedo/programmes/elearning/assessment/digiassess.aspx) and The Open University's Centre for Excellence in Teaching and Learning (http://www.open.ac.uk/opencetl/centre-open-learning-mathematics-science-computing-and-technology/activities-projects/e-assessment-learning-the-interactive-comp). Technical design and deployment of the activities will also follow best practice developed at UWE by the Education Innovation Centre in collaboration with academic colleagues across the university. Staff guidance and support are already in place (http://info.uwe.ac.uk/online/Blackboard/staff/guides/summative-assessments.asp).
Identify final assessment component and element	

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

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Exam (2 hours) [Assessment Period 1]	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Case study poster presentation	100

Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Exam (2 hours) [Assessment Period 3]	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Case study poster presentation	100

If a student is permitted an **EXCEPTIONAL RETAKE** of the module the assessment will be that indicated by the Module Description at the time that retake commences.