



ACADEMIC SERVICES

**MODULE SPECIFICATION**

Part 1: Basic Data					
Module Title	Anatomy and Physiology (FdSc HSC)				
Module Code	USSJT8-30-1	Level	1	Version	1.1
Owning Faculty	Health and Applied Sciences	Field	Biological, Biomedical and Analytical Sciences		
Contributes towards	FdSc Healthcare Science				
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 2013		Valid to	Current/ongoing	

<b>CAP Approval Date</b>	20 <sup>th</sup> November 2014
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Part 2: Learning and Teaching	
Learning Outcomes	<p>On successful completion of this module students will be able to (Assessment intended for each learning outcome designated by [*] corresponding to assessment section):</p> <p>Core learning outcomes:</p> <ul style="list-style-type: none"> <li>• Use and understand basic anatomical terminology [A1, B3]</li> <li>• Explain the principles of homeostasis and recognise homeostatic control mechanisms, [A2, B3]</li> <li>• Describe the differences between connective tissue types at the cellular and tissues levels [A2, B3]</li> <li>• Identify major bones of the human skeleton, including key surface landmarks [A1, A2, B3]</li> <li>• To be able to relate the position, orientation, and gross anatomy of major organs to their respective systems [A1, A2, B3]</li> <li>• To understand the structure and function of key core systems, such as respiratory, cardiovascular, endocrine, and renal [A2, B2, B3]</li> <li>• Describe the principles of diagnostic imaging and show a working knowledge of simple interpretation [A1, B2, B3]</li> <li>• Demonstrate practical skills in data observation, collection, handling and report writing [B1]</li> <li>• Discuss the importance of effective multidisciplinary team working in the investigation and treatment of relevant disorders [B1].</li> </ul> <p>Optional learning outcomes*:</p> <ul style="list-style-type: none"> <li>• Demonstrate a broad basic and clinical sciences knowledge and apply that knowledge with respect to Cardiology, Vascular, Respiratory and Sleep Sciences [A2].</li> <li>• Discuss the application of safe and effective practice in physiological measurement [A2, B1].</li> </ul>

	<ul style="list-style-type: none"> <li>• To understand the structure and function of key systems, such as reproductive, gastrointestinal, neurological [A2, B2, B3]</li> <li>• Understand and discuss the histological differences of several key systems [A1, A2]</li> </ul> <p>*To be negotiated between the employer/student/UWE prior to commencement of the module</p>
Syllabus Outline	<ul style="list-style-type: none"> <li>• Anatomical terminology as it relates to body posture and describing orientation of organs/limbs in a clinical setting</li> <li>• Connective tissues: Introduction into cell types that make up the various connective tissues, and the function of connective tissue in the human body</li> <li>• Major skeletal structure and muscle groups, including their relationship to connective tissues</li> <li>• Histological structure of endocrine, nerve and muscle tissues.</li> <li>• Endocrinology; structure and function of the key endocrine organs and its relationship to homeostasis and normal function</li> <li>• Introduction to the Nervous System to include gross anatomy of the brain and spine. The electrochemical nature of nervous signals. Membrane and action potentials, nerve conduction, synaptic transmission.</li> <li>• An introduction to the pharmacological nature of the autonomic nervous system. The neurotransmitters and receptors involved in autonomic function.</li> <li>• Structure of the heart and its associate with major blood vessels, including lung structure and its relationship to the heart</li> <li>• The structure of the organs that make up the GI system, with focus on adaptations of each to carry out specific functions relating to stages of digestion</li> <li>• The structure of the kidneys and bladder, including nervous control of micturition</li> <li>• Structure and function of the male and female reproductive system.</li> <li>• The process of human development from fertilisation to adulthood</li> <li>• An introduction to the technologies of diagnostic imaging including x-ray, MRI, and ultrasound. Interpretation of MRI imaging in particular to understand spatial relationships of cross sectional anatomy and structure recognition</li> </ul> <ul style="list-style-type: none"> <li>• Application of safe and effective clinical practice in physiological measurement</li> <li>• Characteristics of recording equipment and their evaluation</li> <li>• Basic cardiac electrophysiology</li> <li>• Recognition and interpretation of normal ECG waveforms</li> <li>• Control of the circulation</li> <li>• Cardiac embryology and foetal heart development</li> <li>• Control of respiration during sleep</li> <li>• Control of sleep wake cycle</li> <li>• Physiological measurement systems in the evaluation of lung function</li> <li>• Dynamic lung volumes and transfer factors: mechanics and measurement</li> <li>• Physiological measurement systems used to measure respiration during sleep</li> <li>• Calculation of reference values</li> <li>• Calibration and quality control procedures</li> <li>• Introduction to Vascular Science</li> <li>• Common abbreviations and units</li> </ul>
Contact Hours/Scheduled Hours	<ul style="list-style-type: none"> <li>• Work based training: pro rata allocation of the 16 hours per week for the programme</li> <li>• There will be 4 weeks of contact time at UWE proposed to be presented in 3 x 1 week blocks with an induction week included. Included in this week are practical classes, lectures and tutorials.</li> </ul> <p>In addition to the allocated hours on campus learning, students will engage in synchronous and asynchronous online learning each week. This will comprise 1.5hrs per week of online engagement through a combination of lectures, synchronous tutorials, synchronous and asynchronous discussions, online</p>

	quizzes, and collaborative group work
Teaching and Learning Methods	<p>Theoretical material within the module will be presented to the students in the form of weekly lectures throughout each of the semesters in the academic year. During those times of work based learning, these lectures will be delivered online and involve a number of technological enhancements. The learning of lecture content will be reinforced through time spent in independent learning by the directed reading of recommended texts and through the use of technology enhanced learning resources that will be provided online. This online learning and engagement will be delivered through several avenues:</p> <ul style="list-style-type: none"> <li>• Synchronous online tutorials in protected learning time where the student will contribute/attend an online activity appropriate to the content at the time at which the academic will be present online to facilitate and lead this scheduled/timetabled session. This tutorial will be themed/planned.</li> <li>• Asynchronous discussions in the student's own time (or during protected time where permitted and appropriate) where they will engage/collaborate with other students on the course or in specified groups, and in which the academic is permitted to moderate where necessary, but is not expected to contribute.</li> <li>• Synchronous surgery sessions timetabled for a specific time in which the academic will be available online to answer live questions via discussion boards/blogs/collaborate or to respond to questions posted/asked prior to the session.</li> <li>• Interactive, online formative quizzes made available either following a particular package of knowledge exchange/learning, or in specified sessions/time periods.</li> <li>• Lectures delivered online through a combination of one or more of the following: visual/audio/interactivity/personal formative assessment</li> </ul> <p>A number of relevant practical sessions will be incorporated during the campus based blocks in addition to the work based learning that must be achieved under supervision by a workplace supervisor. Practical sessions will both drive hands on learning and the acquisition of technical skills at both an individual and group working level.</p> <p>In addition to the lectures the students will undertake fortnightly 30min formative assessments that comprise online MCQs.</p> <p>The remainder of the independent learning time allocated to the module should be spent preparing written assessments for submission and undertaking revision for both continuous assessment sessions and for interim (EX1) and final exams (EX2).</p> <p><b>Scheduled learning</b> includes lectures, seminars, tutorials, demonstration, practical classes and workshops; external visits, case study preparation, assignment preparation and completion, exam revision etc.</p> <p><b>Independent learning</b> includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.</p>
Key Information Sets Information	<p>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.</p>

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	Workbased study hours	Allocated Hours
300	63	87	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	20%
Coursework assessment percentage	60%
Practical exam assessment percentage	20%
	100%

#### Reading Strategy

All students will be encouraged to make full use of the print and electronic resources available to them through membership of the University. These include a range of electronic journals and a wide variety of resources available through web sites and information gateways. The University Library's web pages provide access to subject relevant resources and services, and to the library catalogue. Many resources can be accessed remotely. Students will be presented with opportunities within the curriculum to develop their information retrieval and evaluation skills in order to identify such resources effectively.

Any **essential reading** will be indicated clearly, along with the method for accessing it, e.g. students may be expected to purchase a set text, be given or sold a print study pack or be referred to texts that are available electronically, etc. This guidance will be available either in the module handbook, via the module information on Blackboard or through any other vehicle deemed appropriate by the module/programme leaders.

If **further reading** is expected, this will be indicated clearly. If specific texts are listed, a clear indication will be given regarding how to access them and, if appropriate, students will be given guidance on how to identify relevant sources for themselves, e.g. through use of bibliographical databases.

#### Indicative Reading List

Core recommended texts (latest editions where possible):

Clinically Oriented Anatomy. Moore, Dalley and Agur (2009) ISBN: 9781605476520. Lippincott Williams and Wilkins

Anatomy & Physiology. Patton and Thibodeau. (2012) ISBN: 9780323083577. Elsevier

	<p>Additional recommended useful texts:</p> <p>Grant's Atlas of Anatomy 13<sup>th</sup> Edition. Agur and Dalley. (2012) ISBN 978-1608317561. Lippincott Williams and Wilkins</p> <p>Human Anatomy &amp; Physiology. Marieb E.N. (2011). ISBN 9780321808431 Pearson</p> <p>Visual Anatomy &amp; Physiology. Martini Ober (2011). ISBN 9780321786678 Benjamin Cummings.</p> <p>Principles of Human Physiology. Stanfield CL (2009). ISBN 9780321652874 Pearson Education Ltd.</p> <p>Human Physiology an Integrated Approach. Silverthorn D (2012). ISBN 9780321814838. Pearson Education Ltd.</p> <p>Essentials of Anatomy &amp; Physiology. Tortora GJ &amp; Derrickson B (2011). ISBN 9780470929186. Wiley.</p>
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<b>Part 3: Assessment</b>	
<b>Assessment Strategy</b>	<p>The nature of this module, and the program to which it relates, necessitates continuous assessment throughout.</p> <p>Summative and formative assessment for this module will be provided using a number of approaches. The nature of this blended learning programme to which this module contributes benefits from continuous, interim and final assessment of student learning and a measure of their acquisition of written presentation skills of analysed data.</p> <ul style="list-style-type: none"> <li>• Formative continuous assessment will be provided by the use of frequent multiple choice question tests throughout the module and following blocks of learning provided in the form of lectures. These tests will be provided online, marked automatically and the results provided to the module leader. Feedback at this level will also be provided online and will be by review of the tests after they have been completed and will include the correct answers</li> <li>• The ability of the students to write scientifically and analyse data will be assessed under component B in the form of 2000 word practical reports. These will be marked and feedback provided in the form of written comments. An additional essay based coursework element will be included within component B</li> <li>• Interim (end of semester 1) summative assessment for this module will involve an anatomical spot test carried out under exam conditions, where students are expected to identify anatomical structures and systems from anatomical pots, models, and imaging modalities (photographs, MRIs, Radiographs).</li> <li>• Final assessments under component A will take the form of a Final (end of semester 2) examination that comprises short answer and multiple choice questions</li> </ul>

Identify final assessment component and element		
% weighting between components A and B (Standard modules only)	<b>A:</b>	<b>B:</b>
	<b>40</b>	<b>60</b>
<b>First Sit</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>	
1. EX1 Practical Examination – exam period 45mins	50	
2. EX2 Written Examination – exam period 45mins FINAL ASSESSMENT	50	
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>	
1. CW1 – Collaborative written practical report	50	
2. CW2 – Essay based report	50	
<b>Resit (further attendance at taught classes is not required)</b>		
<b>Component A</b> (controlled conditions) <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>	
1. EX3 Written Examination – exam period 3 (90mins)	100	
<b>Component B</b> <b>Description of each element</b>	<b>Element weighting</b> <b>(as % of component)</b>	
1. CW1 – Practical report	50	
2. CW2 – Extended essay based report	50	
If a student is permitted an <b>EXCEPTIONAL RETAKE</b> of the module the assessment will be that indicated by the Module Description at the time that retake commences.		