University of the West of England
BRISTOL

CORPORATE AND ACADEMIC SERVICES

MODULE SPECIFICATION

.

Part 1: Basic Data						
Module Title	Advanced Cardiac Physiology					
Module Code	USSJY3-30-3		Level	3	Version	1
Owning Faculty	HLS		Field	APPLIED SCIENCES		
Contributes towards	BSc. (Hons) Healthcare Science (Physiological Sciences) : Cardiac Physiology					
UWE Credit Rating	30	ECTS Credit Rating	15	Module Type	Standard,	
Pre-requisites	Cardiac Physiology A & B (level 2) [USSJY5-20-2 and USSJY6-20-2]		Co- requisites			
Excluded Combinations			Module Entry requirements			
Valid From	September 2012		Valid to	September 2018		

CAP Approval Date	16 May 2012

Part 2: Learning and Teaching	
Learning Outcomes	On successful completion of this module students will be able to: 1. Discuss the key areas of physiology, pathophysiology and pharmacology related to provocative electrocardiography, pacing and diagnostic cardiac catheterisation. 2. Critically analyse the value of clinical audit in optimising services. 3. Discuss the differences between children and adults with respect to cardiac Physiology. 4. Critically evaluate the importance of patient-centred care and recognise the needs of people with disabilities within this care pathway. All Learning Outcomes assessed via component A, the focus of the case-study (component B) will alter year on year but will reflect one or more of the Learning Outcomes listed above. In addition the educational experience may explore, develop, and practise <u>but not formally discretely assess</u> the following Professional aspects, as set out within the Modernising Scientific Careers Curriculum: 1. Respect and uphold the rights, dignity and privacy of patients. 2. Critically discuss the problems associated with the care of patients undergoing cardiac investigations or treatments. 3. Establish patient-centred rapport and demonstrate effective communications skills. 4. Appreciate the empathy and sensitivity needed when dealing with the patient experience of long-term conditions and terminal illness. 5. Actively seek accurate and validated information from all available sources with respect to cardiac investigations. 6. Select and apply appropriate analysis or assessment techniques and tools.

Syllabus Outline	Patient Centred Care • Communication skills • Consent • Confidentiality • Disability including learning disabilities Physiology, pathophysiology and pharmacology related to provocative electrocardiography, pacing and diagnostic cardiac catheterisation • Circulatory control • Cardiac cycle and potentials • Cardiac output control • Heart failure and its effect on the heart and circulation • Basic overview of congenital heart disease o Embryology o Circulatory changes at birth o Common abnormalities which may include □ Atrial Septal Defects □ Ventricular Septal Defects □ Patent Ductus Arteriosus □ Coarctation of the Aorta □ Tetralogy of Fallot This module will also build on earlier work to develop the themes of public health and epidemiology of cardiovascular disease, risk factors, risk assessment and primary prevention including behavioural change management.
Contact Hours/Scheduled Hours	• The student will have a minimum of 6 hours per week contact time over the course of semester 1. The module will be delivered by specialist practitioners within the work-place setting and will comprise lectures, seminars, tutorials, practicals, and observation as appropriate to the module content at the time. The teaching will take place within the Bristol Heart Institute and University Hospitals Bristol Education Centre.
Teaching and Learning Methods	Students are expected to spend 72 hours on scheduled learning and 228 hours on independent learning. Independent learning will take the following forms with an approximate indication of time required for each: • Essential reading to support acquisition of knowledge relating to lectures and practical exercises – 96 hours • Researching case studies, including accessing VLE scenarios such as 'Virtual Patient' – 30 hours • Observational learning and discussions within the BHI or 'home' placement setting – 20 hours • Preparation and submission of assessment – 10 hours • Revision and preparation for exam – 72 hours **Scheduled learning** includes lectures, seminars, tutorials, demonstration, practical classes and workshops; work based learning. **Independent learning** includes hours engaged with essential reading, case study preparation, assignment preparation and completion etc.
Reading Strategy	Students will be expected to purchase any core text recommended, access to the core text will also be provided for reference via the library, but is not expected to negate the need for the student to provide their own copy. Students will be expected to access all other essential reading either via handouts provided or online through the library, Blackboard, or other recommended source (typically free access e-journal). Wherever possible, where free online access is not available digitalised copies of book chapters or articles will be provided. All students are encouraged to read widely using the library catalogue, a variety of bibliographic and full text databases and Internet resources. Many resources

	can be accessed remotely. 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. This module offers an opportunity to further develop information skills introduced at Level 1. Students will be given the opportunity to attend the GDP sessions on selection of appropriate databases and search skills. Additional support is available through the Library Services web pages, including interactive tutorials on finding books and journals, evaluating information and referencing. Sign up workshops are also offered by the Library.
Indicative Reading List	*The following list is offered to provide validation panels/accrediting bodies with an indication of the type and level of information students may be expected to consult. As such, its currency may wane during the life span of the module specification. However, as indicated above, CURRENT advice on readings will be available via other more frequently updated mechanisms.* Butler R., Gunning M., and Nolan J. (2007) Essential Cardiac Catheterization. Hodder Arnold Conover MB. (2002) Understanding electrocardiography. Eighth edition. Mosby Deal, Johnstrude and Buck (2004) Paediatric ECG interpretation: An illustrative guide. Blackwell Futura. Frampton, S. B & Charmel, P. A (2009) Putting patients first: best practices in patient-centered care. 2nd ed. Jossey-Bass. eBook Hampton J.R. (2008) The ECG in Practice. Fifth edition. Churchill Livingstone. Jenkins D., and Gerred S. (2011) ECGs by Example. Third edition. Churchill Livingstone. Kenny T. (2005) The Nuts and Bolts of Cardiac Pacing. Second edition. Wiley-Blackwell. Klabunde R.E. (2012) Cardiovascular Physiology Concepts. Second Edition. Lippincott Williams & Wilkins. Lue H-C (2006) ECG in child and adolescent. Blackwell Futura Nobel A., Johnson R., Thomas A., and Bass P. (2010) The Cardiovascular System: Basic Science and Clinical Conditions. Second edition. Churchill Livingstone. Rajendram R., Ehtisham J. & Fofar C. (2011) Oxford Case Histories in Cardiology. OUP Oxford. **Journals** Acute Cardiac Care Journal of Cardiac Failure Journal of Interventional Cardiac Electrophysiology

Part 3: Assessment	
Assessment Strategy	• Component A (controlled) will take the form of an end of module summative exam. The exam will explore the student's ability to discuss, evaluate and synthesise materials and topics covered during the course of the module. • Component B coursework will take the form of an integrated case-study. • Opportunities for formative assessment will occur throughout the module to check students' grasp of content. The nature of the formative assessment will be designed to ensure student familiarity with the summative assessment styles. • The generic assessment criteria used in the Department of Applied Sciences, and made available to students, will be used for all assessments.

Identify final assessment component and element	**Component A, element 1**	
% weighting between components A and B (Standard modules only)	**A:**	**B**:
	60	**40**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting** **(as % of component)**
1. Exam (3 hours) [Assessment Period 1]	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Case-study (2000 words)	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 (3 hours) [Assessment Period 3]	100
Component B **Description of each element**	**Element weighting** **(as % of component)**
1. Case-study (2000 words)	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.