Course Specification

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Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	Wolverhampton School of Sciences		
Course Code(s):	BM030H01UV	Full-time	3 Years
UCAS Code:	B903		
Course Title:	BSc (Hons) Healthcare Science (Cardiac Physiology)		
Hierarchy of Awards:	Bachelor of Science with Honours Healthcare Science (Cardiac Physiology) Bachelor of Science Healthcare Science Diploma of Higher Education Healthcare Science Certificate of Higher Education Healthcare Science		
Language of Study:	English		
Date of DAG approval:	05/Jun/2017		
Last Review:	2018/9		
Course Specification valid from:	2010/1		
Course Specification valid to:	2024/5		

Academic Staff

Course Leader:	Mrs Jacqueline Laverty
Head of Department:	Dr Elizabeth O'Gara

Course Information

Location of Delivery:	University of Wolverhampton
Category of Partnership:	Not delivered in partnership
Teaching Institution:	University of Wolverhampton
Open / Closed Course:	This course is open to all suitably qualified candidates.

Entry Requirements:

Entry requirements are subject to regular review. The entry requirements applicable to a particular academic year will be published on the University website (and externally as appropriate e.g. UCAS

Students are required to have academic study to the value of 300 UCAS points at A2 level to include Biology and at least one other science subject ie A level minimum of BBB or equivalent.

Equivalent qualifications include Access to Higher Education Diplomas, BTEC National Certificates and Diplomas and International Baccalaureates with appropriate emphasis on English, Mathematics and Science.

Applicants should have GCSE English and Maths at Grade C or above, or Key Skills Communication and Application of Number at Level 2.

The Access to Higher Education Diploma requires candidates to accumulate 60 credits, at least 45 of which are at Level 3 of which 36 credits must be in science based units at Level 3: at least 36 of these credits must be achieved at Distinction or above with the remainder at merit.

All applicants will be required to attend a selection interview prior to being offered a place on the course. An offer of a place on the course is also subject to satisfactory Disclosure and Barring Service (DBS) and occupational health checks.

Distinctive Features of the Course:

This course has been constructed to comply with the requirements for the NHS Modernising Scientific Careers initiative which seeks to introduce more structured career pathways for individuals who are employed within NHS scientific careers. The education and training delivered as part of this course follows the requirements laid down by the NHS for entry into the profession of a Healthcare Science Practitioner. The academic component of the course delivers the scientific underpinning knowledge required in both generic healthcare science and in more specific aspects of physiological sciences. There is also a schedule of workbased training integrated within the course which utilises placements offered within local NHS trusts. This aims to provide experiential learning during the first year of study in Cardiac Physiology and Respiratory and Sleep Physiology to develop a holistic view of the areas contributing to high-quality care in physiological sciences. Subsequently the student will then specialise in developing competency in clinical techniques in Cardiac Physiology as specified within the practitioner training manual for that specialism.

Educational Aims of the Course:

This course combines and integrates both academic and work-based training in order to provide participants with the practical skills and underpinning knowledge to fulfil the role as a Healthcare Science Practitioner in Cardiac Physiology. Knowledge of the normal structure and function of the human body will be developed so that the student can appreciate the clinical abnormalities that occur as a result of disease. Students will consider the diagnostic tests used within the profession and be able to understand how test results are used to plan subsequent treatment. The course will provide the student with a wider appreciation of a number of specialisms in physiological sciences through broad experiential components in cardiovascular science in order to develop a more holistic view of the areas contributing to high-quality care. Students will develop competency in a range of techniques outlined in the Healthcare Science Practitioner Training Manual for

Cardiac Physiology through integrated work-based placements in local hospitals. The encouragement of good professional practice will be paramount at all stages of work-based training and students will be encouraged to develop research skills which can be used to improve practice in their chosen specialism. The programme aims to include patient participation in its design, delivery and assessment of students in order to produce a Healthcare Science Practitioner that is focused on patient-centred care. Successful completion of the course will enable graduates to gain employment within a hospital to undertake physiological measurements in cardiac physiology physiology with patients as part of their patient care pathway.

Intakes:

September

Major Source of Funding:

Office for Students (OFS)

Tuition Fees:

Tuition fees are reviewed on an annual basis. The fees applicable to a particular academic year will be published on the University website.

Year	Status	Mode	Amount
2020/1	Home / EU	Full Time / Sandwich	£9250.00
2020/1	Overseas	Full Time / Sandwich	£12250.00
2021/2	H	Full Time / Sandwich	£9250.00
2021/2	Overseas	Full Time / Sandwich	£13450.00
2022/3	H	Full Time / Sandwich	£9250.00
2022/3	Overseas	Full Time / Sandwich	£13950.00
2023/4	H	Full Time / Sandwich	£9250.00
2023/4	Overseas	Full Time / Sandwich	£14950.00

PSRB:

BM030H01UV (Full-time)

Professional Accreditation Body:
Registration Council for Clinical Physiologists, the (RCCP)

Accrediting Body:
"Registration Council for Clinical Physiologists, the (RCCP)"

Accreditation Statement:
To accredit degree programmes covering clinical physiology to enable graduates to register with RCCP. I.e. BSc (Hons) Clinical Physiology and BSc (Hons) Healthcare Science.

Approved	Start	Expected End	Renewal
19/Mar/2014	19/Mar/2014		

BM030H01UV (Full-time)

Professional Accreditation Body:
National School of Health Care Science (NSHCS)

Accrediting Body:
National School of Health Care Science (NSHCS)

Accreditation Statement:
"Accredited by the NSHCS (National School of Health Care Science), on behalf of Health education England, for the purpose of eligibility for registration as a Health-care Science Practitioner on the AHCS (Academy for Healthcare and Science) voluntary accredited register"

Approved	Start	Expected End	Renewal
07/Oct/2015	07/Oct/2015		

Course Structure:

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
4BM016	Human Form & Function	20	SEM1	Core
4BM025	Professional Practice and Study Skills	20	SEM1	Core
4BM028	Introduction to the Principles of Cardiovascular Respiratory and Sleep Science	20	SEM1	Core
4BM024	Introduction to Microbiology	20	SEM2	Core
4BM027	Cell Biology	20	SEM2	Core
4BM029	Introduction to the Clinical Applications of Cardiovascular Respiratory and Sleep Science	20	SEM2	Core

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60 credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
5BM060	Work-based Placement for Healthcare Science I	20	YEAR	Core
5BM059	Research Development and Innovation for Healthcare Science	20	YEAR	Core
5BM058	Instrumentation, Signal Processing and Imaging	20	SEM1	Core
5BM051	Cardiac Physiology	20	SEM1	Core
5BM057	Pathophysiology	20	SEM2	Core
5BM052	Further Cardiac Physiology	20	SEM2	Core

September (Full-time)

Full time and Sandwich Undergraduate Honours students normally study 120 credits per academic year; 60

credits semester 1 and 60 credits semester 2.

Module	Title	Credits	Period	Type
6BM053	Work-based Placement for Healthcare Science II	20	YEAR	Core
6BM040	Research Project	40	YEAR	Core
6BM046	Applying Cardiac Physiology to Practice	40	YEAR	Core
6BM047	Recent Advances in Cardiac Physiology	20	YEAR	Core

Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, to create the best learning experience.

Learning, Teaching and Assessment

Academic Regulations Exemption:

Section 1.3.1 - Exemption from the Undergraduate Academic Framework in order to permit the use of one 40 credit taught specialist theory module at Level 6.

Section 4.4.3 - Exemption in accordance with competency requirements stipulated by the NHS National School of Healthcare Science (NSHCS) and other standards required by the Professional Body (Registration Council for Clinical Physiologists). Compensation will not be permitted for any core modules.

Section 4.3.5 - Exemption to align compulsory placement activity in NHS Trusts with the completion of taught modules. There will be no right to repeat Level 4 specialist modules (third attempts are not permitted) prior to progressing to a named bracketed route at Level 5;

4BM028 Introduction to the Principles of Cardiovascular, Respiratory and Sleep Science.

4BM029 Introduction to the Clinical Applications of Cardiovascular, Respiratory and Sleep Science.

Section 4.5.1 - Exemption to align compulsory placement activity in NHS Trusts with the completion of taught modules. Progression from Level 4 to Level 5 is based upon the successful completion of at least 100 credits within one academic year in full-time mode of study which must include the Level 4 specialist modules.

APPROVED (by Chair's Action on 4/7/2017).

Reference Points:

National School of Healthcare Science NHS Practitioner Training Programme Physiological Sciences – Cardiovascular Respiratory and Sleep Science Curriculum 2016/17

The Equality Act (2010)

Special Education Needs Disability Act (2001)

Health Professions Council

National School of Healthcare Science

Registration Council for Clinical Physiology

UK Quality Code for Higher Education https://www.qaa.ac.uk/quality-code

UK Quality Code for Higher Education Advice & Guidance https://www.qaa.ac.uk/en/quality-code/advice-and-

guidance

Subject Benchmark Statements https://www.qaa.ac.uk/en/quality-code/subject-benchmark-statements

Qualifications and Credit Frameworkshttps://www.qaa.ac.uk/en/quality-code/qualifications-and-credit-frameworks

Overview of Assessment:

Learning Outcomes	Modules
BHONS01 Demonstrate knowledge of the anatomical structure and development of the human body and an understanding of the integrated function and control of the component parts of the major systems, enabling an appreciation of normal human function to be shown.	
BHONS02 Demonstrate knowledge and understanding of cell structure and function at the molecular level, enabling an appreciation of the interplay of complex molecular events that help to maintain cell homeostasis.	
BHONS03 Demonstrate a knowledge and understanding of disease processes to enable appreciation of the use of pharmacological and interventional treatments against them.	
BHONS04 Show competence in the physiological practical techniques employed within physiological sciences, specifically cardiac physiology, and be able to explain the rationale for the investigation and treatment of disease, modification of the investigations, and interpret test results so that the student is able to effectively contribute to the patient care pathway.	
BHONS05 Demonstrate an understanding of the basic principles of physics and signal processing and be able to apply these to the recording, storage and analysis of information in the concept of physiological sciences.	
BHONS06 Be aware of the requirements for good professional practice in physiological sciences, including safe and ethical working practices, the importance of good communication in a therapeutic relationship and how research can be used to advance evidence based practice in their chosen specialism.	
BHONSN01 Demonstrate knowledge of the anatomical structure and development of the human body and an understanding of the integrated function and control of the component parts of the major systems, enabling an appreciation of normal human function to be shown.	
BHONSN02 Demonstrate knowledge and understanding of cell structure and function at the molecular level, enabling an appreciation of the interplay of complex molecular events that help to maintain cell homeostasis.	
BHONSN03 Demonstrate a knowledge and understanding of disease processes to enable appreciation of the use of pharmacological and interventional treatments against them.	
BHONSN04 Show competence in the physiological practical techniques employed within physiological sciences, specifically cardiac physiology, and be able to explain the rationale for the investigation and treatment of disease,	

Learning Outcomes	Modules
modification of the investigations, and interpret test results so that the student is able to effectively contribute to the patient care pathway.	
BHONSN05 Demonstrate an understanding of the basic principles of physics and signal processing and be able to apply these to the recording, storage and analysis of information in the concept of physiological sciences.	
BHONSN06 Be aware of the requirements for good professional practice in physiological sciences, including safe and ethical working practices, the importance of good communication in a therapeutic relationship and how research can be used to advance evidence based practice in their chosen specialism.	

Teaching, Learning and Assessment:

Opportunities to achieve the learning outcomes will be provided by the following teaching / learning activities:

- Lectures
- Tutorials (small group)
- Tutorials (one-to-one)
- Workshops
- Case studies
- Individual or group investigative practical exercises
- Individual and group research project investigations
- Computer based learning
- Supported learning using the University VLE (CANVAS) for information, synchronous and asynchronous communications
- Group work
- Individual structured assignment-based learning
- Directed study
- Seminar presentations
- Poster Presentation for Honours Project

Knowledge of the practical skills required within the workplace involving the observation of qualified practitioners, and reflection on student's own learning.

Students will also be encouraged to develop the three graduate attributes in the following ways:

Digital Literacy: Students on this programme of study will be confident users of digital technology and will be able to exploit the sources of connectivity digital working allows. Students will be required to interact with CANVAS to receive information relating to their modules and complete exercises in preparation for face to face tuition. Students will be required to communicate electronically with staff and other students through the use of email, CANVAS forums and blogs.

They will be required to use information technology for the retrieval of information to support all modules and assessments. They will be required to deliver presentations on key physiology related topics using Powerpoint. Students will also be required to use statistical software packages in the analysis of data relating to their Honours projects.

Knowledgeable and Enterprising: Students on this programme of study will know how to critique, analyse and then apply knowledge they acquire in an enterprising ways. They will have the opportunity to do this by the completion of an Honours project within the university which will have the aim of contributing towards the evidence base relating to their specialised discipline area.

They will use knowledge to seek out opportunities to advance their careers and entrepreneurial drive, through the successful completion of the award. They will be stimulated by engagement in dialogue with practitioners within their specialist area of study. Students will be encouraged to constantly nurture their own intellectual curiosity, and excite others to do the same through the delivery of seminar presentations relating to emerging topics in their subject specialism.

Global Citizenship: Students on this programme of study will bring informed understandings of their place and ethical responsibilities in the world through the completion of the professional learning modules associated with this course. They will have personal and professional values developed through professional practice modules that will help them to lead, and take a substantial role in their local, national and global communities associated with their chosen profession.

Progression of Assessment Tasks at Each Level

Level 4

There are a range of summative assessment tasks employed in level 4 modules and these range from multiple choice question tests (MCQs), portfolio production, computer assisted assessments, short answer tests, and laboratory practical reports. All modules contain elements of formative assessment (practice MCQ tests, production of practice short answer tests, and practice laboratory report writing). These formative tasks are undertaken early in the module, allowing constructive feedback to be given to students prior to the summative assessments.

Module tutors will be able to identify those students who may require additional support early in the module. The general strategy at level 4 is to provide good quality and timely feedback to students, to encourage full attendance and participation and to support the development and acquisition of good study and key skills.

Module staff will use WOLF to embed formative self-assessment exercises into the assessment structure of the module so that students can check their progress and their knowledge and understanding of the taught elements of the modules. If deficiencies in the knowledge base are seen then students will be able to request remedial support from the module team.

Further support is available from the School of Biomedical Science and Physiology team of demonstrators who provide drop-in sessions for students who require additional study skills support.

Level 5

There are a range of summative tasks employed in the assessment of level 5 theory modules and these include: examinations, short answer tests, patient study reports, patient case studies, laboratory reports, portfolios and reflective writing.

At level 5 students should be less dependent learners and should show evidence in their assessed work of some integration of knowledge, beginning to critically evaluate key facts, to solve problems and to use a wider range of information sources other than directed reading. The assessment tasks at this level are designed not just to test basic recall of knowledge but to test a student's ability to synthesise their knowledge in a contextual manner.

There are a range of formative assessment tasks available including practice exams, practice writing exercises and practice case studies. In all cases students will become aware of the criteria for the summative assessment and will be able to check their performance. Students will be given constructive feedback and encouraged to read around the subject further. There will be a range of self-assessment tasks available on WOLF (practice MCQ tests, a mini quiz, and case studies). Students who perform less well will be able to ask for further help from the module team.

Level 6

There is a range of tasks utilised to assess level 6 modules. In general, the strategy at level 6 is for less frequent, high volume tasks designed to assess level 6 students as independent learners and test their ability to solve problems, apply numerical skills at an appropriate level, present information in writing to publication standards and to present information orally at a research seminar level. In all cases students will be expected to show evidence of integration of their knowledge base and contextual awareness.

The tasks include: critical reviews of primary literature sources on an advanced topic; short presentations; case studies including patient data interpretation exercises; extended essay writing; unseen examinations; seen question examinations and recent advances reports.

The honours project report will assess level 6 intellectual skills, scientific skills, practical skills and contextual awareness. Students will be assigned to an individual project supervisor who will work with the student and provide formative assessment and feedback as required.

Assessment Methods:

At the University of Wolverhampton, a variety of modes of assessment will be used to support and test your learning and progress and to help you develop capabilities that are valued beyond your University studies and into your working life. Your course may include a variety of assessment activities:

Written examinations (including online examinations, open and closed book examinations and quizzes)
Coursework (for example, essays, reports, portfolios, project proposals and briefs, CVs, poster presentation)
Practical (for example, oral and video presentations, laboratory work, performances, practical skills assessment)

In the final year of your undergraduate degree, and at the end of your postgraduate degree, you are likely to be expected to write an extended piece of work or research, such as a dissertation or a practice-based piece of research.

Student Support:

General University Support:

University Libraries are the key source of academic information for students. Libraries provide physical library resources (books, journals, DVDs, etc.) and offer a range of study areas to allow students to study in the environment that suit them best: Social areas, quiet and silent areas. Libraries also provide access to wide range of on-line information sources, including eBooks, eJournals and subject databases.

Libraries also provide students with academic skills support via the Skills for Learning programme. Students on campus can attend workshops or ask for one-to-one help on a range of skills such as academic writing and referencing. Students can access a range of on-line skills material at: www.wlv.ac.uk/lib/skills

The University Student Support website offers advice on a variety of matters (careers, counselling, Student Union advice, etc.) Students can also access these services by booking appointment with the SU, careers, counselling services, etc.

Employability in the Curriculum:

This course has been developed to support the Department of Health Modernising Scientific Careers initiative. Graduates from this course satisfy requirements to enter the profession as a Healthcare Science Practitioner in Cardiac Physiology in NHS hospital trusts. Healthcare Science Practitioners will work in a range of healthcare settings, with a clearly defined technologically based role in the delivery and technical reporting of quality assured tests, investigations and interventions for patients, on samples or equipment. In a number of disciplines Healthcare Science Practitioners will provide therapeutic interventions, some of which maybe specialist. Newly qualified Healthcare Science Practitioners with BSc (Hons) and the requisite certificate of achievement of practice based learning outcomes may be regulated at NHS Career Framework five. There will

be scope to progress to Senior Healthcare Science Practitioner roles at NHS Career Framework six within a defined area of practice, including key quality assurance roles. There will also be scope to progress into management or academic training and career pathways. With further education and training graduates can progress through the Healthcare Scientist programme to deliver more highly specialised tests in Cardiac Physiology. Further advances in careers can be obtained with sufficient experience and completion of assessor qualifications to act as work-based supervisors for trainee cardiac physiologists. Further training and development opportunities exist in specialist areas of practice to undertake Higher Specialist Scientific Training in order to progress to consultant level practitioner.

