Course Specification

Published Date:	28-Mar-2024
Produced By:	Multi Type Usr Record For All Personnel
Status:	Validated

Core Information

Awarding Body / Institution:	University of Wolverhampton		
School / Institute:	School of Life Sciences		
Course Code(s):	BM039H01UV BM039H31UV	Full-time Part-time	3 Years 6 Years
UCAS Code:			
Course Title:	BSc (Hons) Medical Physiology and Diagnostics		
Hierarchy of Awards:	Bachelor of Science with Honours Medical Physiology and Diagnostics Bachelor of Science Medical Physiology and Diagnostics Diploma of Higher Education Medical Physiology and Diagnostics Certificate of Higher Education Medical Physiology and Diagnostics University Statement of Credit University Statement of Credit		
Language of Study:	English		
Date of DAG approval:	06/Jun/2017		
Last Review:			
Course Specification valid from:	2015/6		
Course Specification valid to:	2024/5		

Academic Staff

Course Leader:	Dr Janine Fletcher
Head of Department:	Dr Gillian Conde

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

GCSE English and Maths at grade C+/4. No equivalences are accepted.

PLUS EITHER

96 UCAS points

A Levels AA or BCD to include Biology passed with minimum grade B

BTEC L3 Extended Diploma or OCR Cambridge L3 Technical Extended Diploma in Applied Science - grades MMM

Access to HE Diploma Full Award (60 credits), with 45 Level 3 credits of which 36 must be in Science, with at least 27 at Distinction and the rest at Merit. No pass grades are accepted

You may be requested to complete a Disclosure and Barring Service (DBS) Check after your first year of study on this course.

Students must usually have studied for a minimum of two years post GCSE level. However, we will consider applications from mature students who do not have two years of post-16 study, where they have relevant work experience.

Distinctive Features of the Course:

This course is designed to provide you with education and training in cardiovascular, respiratory and sleep sciences, as well as strong background knowledge of physiology and physiology laboratory techniques. It is particularly designed for those of you who are interested in disease processes, diagnosis and improving the quality of life of patients. If you would like to work hands-on with people, rather than in a laboratory, this might be the course for you. Following successful completion of your first year, you will be able to apply to transfer onto our accredited BSc (Hons) Healthcare Science (Physiological Science) practitioner training programme (having satisfied Disclosure and Barring Service and Occupational Health checks). This course has a work-based placement embedded throughout your study, which will allow you to undertake the practical training associated with the role of a healthcare scientist. The first placement, taken at the end of your first year of study, following selection, involves practical training in cardiac physiology, respiratory and sleep science, and you can then choose to specialise in one discipline for the final two years. If you do not transfer at this stage you can continue with your study towards a degree in Medical Physiology & Diagnostics. You will follow one of two pathways, either Cardiovascular Physiology or Respiratory Physiology and Sleep Science. This will give you the essential skills for you to be able to work as a Healthcare Associate Practitioner, and gain experience in the workplace via this route or it will allow you to apply for entry to the Scientist Training Programme or further study on a graduate diploma such as such as Respiratory Science or Echocardiography. You could also use the transferrable skills to apply for post graduate courses such as the Physicians Associate course. You can also choose to complete a sandwich year (between years 2 and 3) in industry or within the NHS, this would enhance your employability following graduation,

Opportunities for progression:

This innovative course is designed to provide you with education and training in cardiovascular, respiratory and sleep sciences, and is particularly beneficial if you're interested in disease processes, diagnosis and improving the quality of life of patients. If you've already decided that your ambitions lie within clinical practice then we do offer BSc (Hons) Healthcare Science (Physiological Science) which is an accredited degree programme as an alternative to the BSc (Hons) Medical Physiology and Diagnostics. BSc Healthcare Science (Physiological Science) is accredited by Accredited by the National School of Healthcare Science (NSHCS) and Academy for Healthcare Science (AHCS) and opens opportunities for you to undertake clinical placements throughout your time at university, providing excellent employment opportunities on graduation. If you are not certain that a clinical career path is for you, or do not feel able to commit to work-based placement as an integral part of your studies, then Medical Physiology and Diagnostics may be a more suitable course for you. Medical Physiology and Diagnostics provides similar academic content to that within the Healthcare Science programme but without the need to commit to clinical placement during each year of your studies and can offer you the opportunity to enter clinical practice on graduation. Medical Physiology and Diagnostics covers the theoretical knowledge required for you to pursue a career as a scientist within a healthcare environment or other areas that require detailed knowledge of human physiology and understanding of disease processes. Knowledge of the normal structure and function of the human body will be developed so that you can appreciate the range of clinical abnormalities that occur as a result of disease. Although the main focus will be either Cardiac Physiology or Respiratory and Sleep Science, depending on your choice of specialist area, the academic provision will not be limited to these areas but will also cover the physiology and pathophysiology of the wider systems to provide an extensive knowledge base. You will consider the diagnostic tests used within your specialist professional area and be able to understand how test results are used to plan subsequent treatment. It will provide you with a comprehensive appreciation of a number of specialisms in physiological sciences through broad experiential components in cardiovascular, respiratory and sleep sciences in order to develop a more holistic view of the areas contributing to high-quality care. If you pass all of your first year modules in Medical Physiology and Diagnostics gaining 120 credits, and would like to, you will be able to apply to transfer onto our accredited BSc (Hons) Healthcare Science (Physiological Science) practitioner training programme. Transfer onto the Healthcare Science award will also need you to be successful at interview, to demonstrate that you have the necessary attributes to follow a career in Healthcare and satisfy Disclosure and Barring Service and Occupational Health checks. The Healthcare Science course has work-based placement embedded throughout your study, which will allow you to undertake the practical training associated with the role of a healthcare scientist. The first placement, taken at the end of your first year of study, following selection, involves practical training in cardiac physiology, respiratory and sleep science, and you can then choose to specialise in one discipline for the final two years. If you do not transfer at this stage you can continue with your study towards a degree in Medical Physiology and Diagnostics. You will follow one of two pathways, either Cardiovascular Physiology or Respiratory Physiology and Sleep Science. This will give you the essential skills for you to be able to work as a Healthcare Associate Practitioner, and gain experience in the workplace via this route, or it will allow you to apply for entry to the Scientist Training Programme or further study on a graduate diploma such as such as Respiratory Science or Echocardiography. You could also use the transferrable skills to apply for post graduate courses such as the Physicians Associate course.

Educational Aims of the Course:

This course covers the theoretical knowledge required for participants to pursue a career as a Scientist within a healthcare environment or other areas that require detailed knowledge of human physiology and understanding of disease processes. Knowledge of the normal structure and function of the human body will be developed so that the student can appreciate the range of clinical abnormalities that occur as a result of disease. Although the main focus will be Cardiac Physiology and Respiratory and Sleep Science the academic provision will not be limited to these areas but will also cover the physiology and pathophysiology of the wider systems to provide an extensive knowledge base. Students will consider the diagnostic tests used within a specific professional area and be able to understand how test results are used to plan subsequent treatment. It will provide the student with a comprehensive appreciation of a number of specialisms in physiological sciences through broad experiential components in cardiovascular, respiratory and sleep sciences in order to develop a more holistic view of the areas contributing to high-quality care.

The encouragement of good professional practice will be paramount at all stages of 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. Changes and innovations in technology and the landscape of the NHS, including the move to 24/7 working, mean that the healthcare science workforce needs to have the ability to adapt and adopt new knowledge and skills. This presents opportunities and is resulting in new roles and services. Graduates from this programme will have the capability to effectively adapt both their knowledge and skills within a rapidly changing healthcare environment. Graduates may gain employment within a hospital where further in-house training in practical competences will be needed before being able to perform the physiological measurements in cardiac physiology required as part of the patient care pathway Graduates will be able to use their transferable skills to enter a variety of jobs, both at home and internationally. Skilled graduates are needed for Medical Sales companies, and with graduates focussing on either cardiology or respiratory and sleep physiology, there will be roles available in these specialist fields.

Successful completion of the course will provide graduates with an appropriate qualification for admission to the Healthcare Science Scientist Training Programme or further study on a graduate diploma such as such as Respiratory Science or Echocardiography. You could also use the transferrable skills to apply for post graduate courses such as the Physicians Associate course.

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
2020/1	H	Part Time	£3050.00
2020/1	Overseas	Part Time	£6125.00
2021/2	H	Full Time / Sandwich	£9250.00
2021/2	Overseas	Full Time / Sandwich	£13450.00
2021/2	H	Part Time	£3100.00
2022/3	H	Full Time / Sandwich	£9250.00
2022/3	Overseas	Full Time / Sandwich	£13950.00
2022/3	H	Part Time	£3120.00
2023/4	H	Full Time / Sandwich	£9250.00
2023/4	Overseas	Full Time / Sandwich	£14950.00
2023/4	H	Part Time	£4625
2024/5	H	Full Time / Sandwich	£9250.00
2024/5	Overseas	Full Time / Sandwich	£15450.00
2024/5	H	Part Time	£4625.00

PSRB:

None

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.

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

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)

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

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
5BM048	Anatomy and Physiology	20	SEM1	Core
5BM058	Instrumentation, Signal Processing and Imaging	20	SEM1	Core

Group 20 | Min Value: 20 | Max Value: 20

If you select 5BM049 in semester 1, you should select 5BM050 in semester 2.
If you select 5BM051 in semester 1, you should select 5BM052 in semester 2.

5BM049	Respiratory and Sleep Physiology	20	SEM1	
5BM051	Cardiac Physiology	20	SEM1	

Group 02 | Min Value: 20 | Max Value: 20

You should select 5BM050 in semester 2, if you selected 5BM049 in semester 1.
You should select 5BM052 in semester 2, if you selected 5BM051 in semester 1.

5BM050	Further Respiratory and Sleep Physiology	20	SEM2	
5BM052	Further Cardiac Physiology	20	SEM2	

5BM057	Pathophysiology	20	SEM2	Core
5BM059	Research Development and Innovation for Healthcare Science	20	YEAR	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.

Part time students study alongside full time students. However, they do not study more than 80 credits in each academic calendar year.

Module	Title	Credits	Period	Type
6BM040	Research Project	40	YEAR	Core
6BM064	Clinical and Professional Skills	20	YEAR	Core

Linked Option Group Rule: Select a minimum of 40 credits and a maximum of 40 credits from the linked (*) groups.

*** Group 01 | Min Value: 0 | Max Value: 40**

There are two specialist routes, Cardiac Physiology or Respiratory Physiology and Sleep Science.

Cardiac Route : If you selected 5BM051 and 5BM052 in year two you should select 6BM046 and 6BM047.

6BM047	Recent Advances in Cardiac Physiology	20	YEAR
6BM046	Applying Cardiac Physiology to Practice	40	YEAR

*** Group 01 | Min Value: 0 | Max Value: 40**

There are two specialist routes, Cardiac Physiology or Respiratory Physiology and Sleep Science.

Respiratory Physiology & Sleep Science Route : If you selected 5BM049 and 5BM050 in year two you should select 6BM044 and 6BM045.

6BM045	Recent Advances in Respiratory and Sleep Physiology	20	YEAR
6BM044	Applying Respiratory and Sleep Physiology to Practice	40	YEAR

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:

None.

Reference Points:

- QAA Subject Benchmarks for Biomedical Sciences (2015)
- QAA Subject Benchmarks for Biosciences (2015)
- QAA Framework for Higher Education Qualifications (FHEQ): The framework for higher qualifications in England, Wales and Northern Ireland. Qualification descriptors for Intermediate (I) and Honours (H) levels (October 2008)
- Special Education Needs Disability Act (2001)
- Equality Act (2010).

Overview of Assessment:

As part of the course approval process, the course learning outcomes were mapped to each of the modules forming the diet of the programme of study. This process confirmed that all course learning outcomes can be met through successful completion of the modules. This mapping applies to the final award as well as to all of the intermediate awards.

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 Demonstrate an understanding of the range of practical techniques employed within physiological sciences, either cardiac science or respiratory and sleep science, and be able to explain the rationale for the investigation and treatment of disease.	
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 Demonstrate an understanding of the range of practical techniques employed within physiological sciences, either cardiac science or respiratory and sleep science, and be able to explain the rationale for the investigation and treatment of disease.	
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	

Learning Outcomes	Modules
communication in a therapeutic relationship and how research can be used to advance evidence based practice in their chosen specialism.	
CERTHE01 Demonstrate knowledge of the underlying concepts and principles associated with your area(s) of study, and an ability to evaluate and interpret these within the context of that area of study.	
CERTHE02 Demonstrate an ability to present, evaluate and interpret qualitative and quantitative data, in order to develop lines of argument and make sound judgements in accordance with basic theories and concepts of your subject(s) of study.	
CERTHE03 Evaluate the appropriateness of different approaches to solving problems related to your area(s) of study and/or work.	
CERTHE04 Communicate the results of your study/work accurately and reliably, and with structured and coherent arguments.	
CERTHE05 Demonstrate the qualities and transferable skills necessary for employment requiring the exercise of some personal responsibility.	
DIPHE01 Demonstrate knowledge and critical understanding of the well-established principles of your area(s) of study, and of the way in which those principles have developed with an understanding of the limits of your knowledge, and how this influences analyses and interpretations based on that knowledge.	
DIPHE02 Demonstrate the ability to apply underlying concepts and principles outside the context in which they were first studied, including, where appropriate, the application of those principles in an employment context.	
DIPHE03 Demonstrate knowledge of the main methods of enquiry in the subject(s) relevant to the named award, and ability to evaluate critically the appropriateness of different approaches to solving problems in the field of study.	
DIPHE04 Use a range of established techniques to initiate and undertake critical analysis of information, and to propose solutions to problems arising from that analysis.	
DIPHE05 Effectively communicate information, arguments and analysis in a variety of forms to specialist and non-specialist audiences, and deploy key techniques of the discipline effectively.	
DIPHE06 Demonstrate the qualities and transferable skills necessary for employment, requiring the exercise of personal responsibility and decision-making and undertake further training, developing existing skills and acquire new competences that will enable them to assume significant responsibility within organisations.	

Teaching, Learning and Assessment:

Lectures

Tutorials (small group)

Tutorials (one-to-one)

Workshops

Case studies

Practical classes

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.

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, journal, 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 online 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 online 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 provide the theoretical knowledge which underpins practice as a Cardiac or Respiratory Physiologist. Students will be exposed to the practical recording techniques which are required to train as a Healthcare Science Practitioner either in Cardiac of Respiratory and Sleep Physiology. Students have the opportunity to transfer to the BSc (Hons) Healthcare Science course at the end of year one where they will be able to complete workbased learning in either Cardiac Physiology or Respiratory and Sleep Physiology to satisfy the requirements for registration as a Healthcare Science Practitioner upon graduation. Students who continue to follow the Medical Physiology and Diagnostics course to its completion will have the opportunity to develop essential skills to be able to work as a Healthcare Associate Practitioner, or follow a career in research or industry.

Successful completion of the course will provide graduates with an appropriate qualification for admission to the Healthcare Science Scientist Training Programme (STP) or further study on a graduate diploma such as such as Respiratory Science or Echocardiography. They could also use the transferrable skills to apply for post graduate courses such as the Physicians Associate course.