



ACADEMIC SERVICES

| PROGRAMME SPECIFICATION Part 1: Basic Data | | | | | |
|--|---|-------------------|--------------|-------------------|--------------|
| Awarding Institution | University of the West of England, Bristol | | | | |
| Teaching Institution | University of the West of England, Bristol | | | | |
| Delivery Location | Frenchay and Glenside Campuses | | | | |
| Faculty responsible for programme | Health and Applied Sciences | | | | |
| Department responsible for programme | Applied Sciences | | | | |
| Modular Scheme Title | Any faculty modular scheme linking named programmes | | | | |
| Professional Statutory or Regulatory Body Links | <ul style="list-style-type: none"> Health Education England Healthcare Science Board (Medical Education England Healthcare Science Programme Board before September 2012) Registration Council for Clinical Physiologists <ul style="list-style-type: none"> Association of Respiratory Technology and Physiology Society for Cardiological Science and Technology | | | | |
| Highest Award Title | BSc (Hons) Healthcare Science (Physiological Sciences) With pathways in: BSc (Hons) Healthcare Science (Cardiac Physiology), BSc (Hons) Healthcare Science (Respiratory & Sleep Physiology) | | | | |
| Default Award Title | | | | | |
| Fall-back Award Title | BSc (Hons) Health and Social Care Studies | | | | |
| Interim Award Titles | BSc Healthcare Science Dip HE Healthcare Science Cert HE Healthcare Science | | | | |
| UWE Progression Route | N/A | | | | |
| Mode(s) of Delivery | FT (with Foundation Year) | | | | |
| Codes | <table border="0"> <tr> <td>UCAS: C991</td> <td>JACS:</td> </tr> <tr> <td>ISIS2:C991</td> <td>HESA:</td> </tr> </table> | UCAS: C991 | JACS: | ISIS2:C991 | HESA: |
| UCAS: C991 | JACS: | | | | |
| ISIS2:C991 | HESA: | | | | |
| Relevant QAA Subject Benchmark Statements | Bioscience, Biomedical Science, Clinical Science 2007 | | | | |
| CAP Approval Date | 11 July 2016 20 July 2017 (v2) | | | | |
| Valid from | September 2016 September 2017 (v2) | | | | |
| Valid until Date | September 2022 | | | | |
| Version | 2 | | | | |

Part 2: Educational Aims of the Programme

The BSc (Hons) Healthcare Science (Physiological Sciences) (with Foundation Year) is a 4 year programme, that is part of the University's extensive Healthcare and Biomedical Science provision to provide the principle training route for Healthcare Science Practitioners. This exciting course is delivered through a unique collaboration between the University of the West of England and local NHS providers within the South-West region, and has been developed in direct response to the Modernising Scientific Careers programme at the Department of Health. This has been established to develop a common career pathway, education and training standards for Healthcare Scientists. The degree programme provides students with a comprehensive foundation in science, whilst developing the knowledge and skills required of a healthcare scientist, in addition to completing the extensive work-based training that forms an integral and significant proportion of the course, and to demonstrate specified standards of practice.

The programme provides:

- An educational and resource rich environment which will enable students to develop background knowledge in the biological, chemical, and physical systems underpinning the physiological sciences at level 0.
- A broad knowledge base in healthcare sciences, including the application of physics to physiological measurement, with specific areas of deeper understanding relevant to the specialist physiological pathways.
- The opportunity to develop specialist skills and knowledge in the Cardiac or Respiratory & Sleep pathways of Healthcare Science through targeted work experience in healthcare science laboratories, and via the development of specialist knowledge within the final year of study.
- Practical experience of working in a clinical environment through both an experiential placement within the level 1 to introduce Healthcare Science, and in extended placements at level 2 and 3, enabling the student to perform a wide range of relevant techniques and to undertake a project out in the work place.
- An understanding of the importance of effective communication, patient-centered care, evidence-based practice, clinical audit and multidisciplinary team working.
- The underpinning knowledge to enable students to gain the accompanying skills and attitudes to work as a Physiological Scientist.
- An excellent preparation for work after graduation with the opportunity for students to develop specialist knowledge and skills within pathways specifically designed for the pursuance of a career as a Healthcare Scientist in the NHS.

The programme offers a combination of modules enabling students to understand the science of the physiology and pathophysiology of relevant body systems and the application of technology, while working at the cutting edge of healthcare sciences using state-of-the-art equipment in a patient-facing environment.

Programme requirements for the purposes of the Higher Education Achievement Record (HEAR)

The BSc (Hons) Healthcare Science (Physiological Sciences) programme is a professionally accredited course that integrates theoretical and clinical approaches to understanding the human body in health and disease.

The Foundation Year (level 0) gives students an appropriate grounding in the subject areas of biology, chemistry, physics, mathematics, and psychology. This grounding, in addition to the development of transferable skills, prepares learners to successfully study at Level 1 and

Part 2: Educational Aims of the Programme

beyond. At Levels 1 & 2 the programme develops core knowledge across a range of bioscience subjects that underpin the two physiology specialisms – cardiac physiology or respiratory and sleep physiology. These are pursued at an advanced and applied level in the final year of study on the programme. These subjects are supported by clinical investigation to develop proficiency in physiological measurement, diagnosis and clinical problem solving. At the heart of the programme are placements in physiology departments (predominantly within the NHS but also private) to provide professional training encompassing patient-centered care and multidisciplinary team working.

Part 3: Learning Outcomes of the Programme (Levels 1 and 2)

The award route provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:

| Learning Outcomes: Levels 0, 1 and 2 | USSKJ-30-0 Biology in Practice | USSKK-30-0 Chemistry in Practice | USSKCL-30-0 Skills for Science | USSKCM-30-0 People and Science | L1 Anatomy & Physiology | L1 Cell Biol, Biochem & Genetics | L1 Intro to Physiological Science | L1 Biomedical Skills | L2 Practice & Comms of Science | L2 Diagnostic & Professional Practice | L2 Cardio Physiol & Pathophysiol A & B | L2 Resp & Sleep Physiol & Pathophysiol A & B |
|--|--------------------------------|----------------------------------|--------------------------------|--------------------------------|-------------------------|----------------------------------|-----------------------------------|----------------------|--------------------------------|---------------------------------------|--|--|
| A) Knowledge and understanding of: | | | | | | | | | | | | |
| Structure and function of the natural world | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | | | |
| The techniques used to gather and critically analyse data in the natural /physiological sciences | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Laboratory practical (P); Placement (PI); Specialist module (S) | | | | | P | P | P/PI | P | | P/PI | PS | PS |
| Students will be able to: | | | | | | | | | | | | |
| Demonstrate knowledge of cell biology, anatomy, physiology, pharmacology and pathology that underpins the Physiological Sciences pathways of Healthcare Science. | ✓ | ✓ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ |
| Understand the context of healthcare sciences and their application to practical problems. | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Understand the importance of patient-centered care, evidence-based practice, clinical audit and multidisciplinary team working. | | | | | | | | | | ✓ | ✓ | ✓ |
| Understand a broad range of diagnostic and therapeutic measurement techniques including the | | | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |

Part 3: Learning Outcomes of the Programme (Levels 1 and 2)

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|--|---|---|---|---|---|---|---|---|---|---|---|---|---|
| rationale for the investigation, modification of the investigation, interpretation of test results and treatment of disease. | | | | | | | | | | | | | |
| Demonstrate competence in specific areas of physiological measurement with an understanding of the clinical principles underlying the techniques used. | | | | | | | | | | | ✓ | ✓ | |
| Demonstrate an understanding of the research, development and innovation across the NHS relating to Healthcare Science. | | | | | | | ✓ | ✓ | | | | | |
| (B) Intellectual Skills | | | | | | | | | | | | | |
| Students will develop the ability to: | | | | | | | | | | | | | |
| Using theories and paradigms | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| Actively question and seek relevant information. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Compare and contrast information from different sources online and offline. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Critically evaluate information against hypotheses in a range of research scenarios. | | | | | | | | | | ✓ | ✓ | ✓ | |
| Actively analyse and apply problem-solving strategies. | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| Demonstrate independent self-directed learning, and reflective skills for life-long learning. | | | | | | | | | | | ✓ | ✓ | |
| Analyse, synthesise, summarise information | ✓ | ✓ | ✓ | ✓ | | | | | | | | | |
| Appreciate moral, ethical issues around investigation | | | | ✓ | | | ✓ | | | ✓ | ✓ | ✓ | ✓ |
| (C) Subject/Professional/Practical Skills | | | | | | | | | | | | | |
| Students will develop the ability to: | | | | | | | | | | | | | |
| Appreciate knowledge and complexity of life processes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Practical competence | ✓ | ✓ | | | | | ✓ | | | | ✓ | ✓ | ✓ |
| Critically observe, analyse and evaluate information arising from a wide range of sources. | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Apply practical approaches to the study of selective aspects of healthcare science; demonstrate an awareness of health and safety in practice and the skills to undertake a clinical audit and multidisciplinary team working. | | | | | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ |

Part 3: Learning Outcomes of the Programme (Levels 1 and 2)

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Communicate effectively scientific data and concepts using a range of communication strategies, showing awareness of the needs of the audience. | | | ✓ | | | | ✓ | ✓ | | | ✓ | ✓ |
| Develop discipline-specific interests by specialising within the programme in relation to subject and/or career aspirations. | | | | | | | | | | | ✓ | ✓ |
| Obtain, record, collate and critically analyse data using appropriate assessment techniques, working as an individual or within a team. | ✓ | ✓ | ✓ | ✓ | | | | | | ✓ | ✓ | ✓ |
| Demonstrate an understanding of the research process, including the current ethical and legal frameworks within which research can be conducted in the UK, through the execution of a research project. | | | | | | | | ✓ | ✓ | | | |
| (D) Transferable skills and other attributes | | | | | | | | | | | | |
| Students will develop the ability to: | | | | | | | | | | | | |
| Communicate information, advice, instruction and professional opinion effectively and appropriately to colleagues, patients, clients, users, their relatives and carers. | | | | ✓ | | | ✓ | | | ✓ | ✓ | ✓ |
| Critically analyse data arising from various means of biological inquiry. | ✓ | ✓ | ✓ | ✓ | | | | | | | ✓ | ✓ |
| Undertake active learning and development. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Effectively manage information and time. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Work effectively as a team member. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Demonstrate an autonomous and reflective approach to lifelong learning. | | | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Use a variety of sources of information | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Communicate appropriately using contemporary technologies | | | ✓ | ✓ | | | | | | | | |
| Solve numerical problems | | | ✓ | | | | | | ✓ | ✓ | | |

Part 3: Learning Outcomes of the Programme (Level 3)

The award route provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas:

| | L3 Healthcare Project | L3 Professional Practice | L3 Advanced Cardiac A | L3 Advanced Cardiac B | L3 Advanced Respiratory A | L3 Advanced Respiratory B |
|--|-----------------------|--------------------------|-----------------------|-----------------------|---------------------------|---------------------------|
| Learning Outcomes: Level 3 | | | | | | |
| A) Knowledge and understanding of: | | | | | | |
| Laboratory practical (P); Placement (PI); Specialist (S) | PI | PI | P | P | P | P |
| Students will be able to: | | | | | | |
| Demonstrate knowledge of cell biology, anatomy, physiology, pharmacology and pathology that provides the foundation for studying the Physiological Sciences pathways of Healthcare Science. | | | | | | |
| Understand the context of healthcare sciences and their application to practical problems. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Understand the importance of patient-centered care, evidence-based practice, clinical audit and multidisciplinary team working. | ✓ | ✓ | | | | |
| Understand a broad range of diagnostic and therapeutic measurement techniques including the rationale for the investigation, modification of the investigation, interpretation of test results and treatment of disease. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Demonstrate competence in specific areas of physiological measurement with an understanding of the clinical principles underlying the techniques used. | ✓ | ✓ | | | | |
| Demonstrate an understanding of the research, development and innovation across the NHS relating to Healthcare Science. | ✓ | ✓ | | | | |
| (B) Intellectual Skills | | | | | | |
| Students will develop the ability to: | | | | | | |
| Actively question and seek relevant information. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Compare and contrast information from different sources online and offline. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Critically evaluate information against hypotheses in a range of research scenarios. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Actively analyse and apply problem-solving strategies. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Demonstrate independent self-directed learning, and reflective skills for life-long learning. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| (C) Subject/Professional/Practical Skills | | | | | | |
| Students will develop the ability to: | | | | | | |
| Critically observe, analyse and evaluate information arising from a wide range of sources. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Apply practical approaches to the study of selective aspects of healthcare science; demonstrate an awareness of health and safety in practice and the skills to undertake a clinical audit | ✓ | ✓ | | | | |

Part 3: Learning Outcomes of the Programme (Level 3)

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| and multidisciplinary team working. | | | | | | | |
| Communicate effectively scientific data and concepts using a range of communication strategies, showing awareness of the needs of the audience. | ✓ | | | | | | |
| Develop discipline-specific interests by specialising within the programme in relation to subject and/or career aspirations. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Obtain, record, collate and critically analyse data using appropriate assessment techniques, working as an individual or within a team. | ✓ | ✓ | | | | | |
| Demonstrate an understanding of the research process, including the current ethical and legal frameworks within which research can be conducted in the UK, through the execution of a research project. | ✓ | | | | | | |
| (D) Transferable skills and other attributes | | | | | | | |
| Students will develop the ability to: | | | | | | | |
| Communicate information, advice, instruction and professional opinion effectively and appropriately to colleagues, patients, clients, users, their relatives and carers. | ✓ | ✓ | | | | | |
| Critically analyse data arising from various means of biological inquiry. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Undertake active learning and development. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Effectively manage information and time. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Work effectively as a team member. | ✓ | ✓ | | | | | |
| Demonstrate an autonomous and reflective approach to lifelong learning. | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| | | | | | | | |

Part 4: Student Learning and Student Support

The suite of Healthcare Science programmes are unique in that work-based learning is fully integrated into levels 1-3 of the four year programme, rather than being part of an additional “sandwich” placement year. Furthermore, the credit associated with work-based learning represents a significant proportion of the total credit for the course. The number of students recruited onto the programme is determined by the total number of placements made available via the Workforce Development Groups, and placements will be available within Physiological Sciences.

There is an overarching regional Learning Development Agreement between the university and hospital trusts which supports placement arrangements. In addition the obligations and responsibilities of the student, the laboratory training officer/supervisor and the University are clearly set out in a personal Learning Agreement drawn up between all three parties. This emphasises and encourages the student to take responsibility for the attainment of the learning outcomes.

At level 1, students observe and experience each setting, and they will be interviewed in order to be allocated their specialist pathway of choice for progression into level 2. In level 2, students

Part 4: Student Learning and Student Support

undertake a 15 week long placement, with underpinning knowledge gained from a range of science and research skills modules. In level 3, students undertake a 25 week placement in which they complete their professional portfolios and also an individual research project in an area of physiology.

This integrated approach, and one that allows for student choice, allows them to develop expertise in a range of scientific techniques and skills, (delivering and reporting of clinical diagnoses and patient-centered care).

Professional Accreditation

The programme is currently accredited by the Health Education England and the Registration Council for Clinical Physiologists (RCCP). Graduates from this programme will be entered on the Voluntary Registers held by The Academy for Healthcare Science, and the RCCP.

There is an overarching regional Learning Development Agreement between the university and hospital trusts which supports placement arrangements. In addition, the obligations and responsibilities of the student, the placement training officer/supervisor and the University are clearly set out in a personal Learning Agreement drawn up between all three parties. This emphasises and encourages the student to take responsibility for the attainment of the learning outcomes. Students are supported during their time at UWE by academic tutors, their programme manager and student advisers.

Student recruitment numbers onto the full-time route are determined by the total number of placements available to us through the Workforce Development Groups. Within this total number students will know the breakdown of Cardiac and Respiratory & Sleep Physiology placements available and recruitment to the programme is by interview and offers based on placement capacity.

Learning and teaching strategy

At UWE Bristol, the learning and teaching policy requires a minimum average of 12 hours per week contact time throughout the full undergraduate programme. This includes face-to-face activities, online learning and independent learning that enable the learning outcomes to be achieved and demonstrated. The following activities take place:

- Scheduled learning - lectures, seminars, tutorials, project supervision, and practical classes. Activities may include field trips and external visits. Scheduled sessions will vary slightly depending on the module choices made.
- Independent learning – students are provided with essential reading and online supplementary materials, and are supported in their academic development through formative assessment, assignment preparation and completion. Students are encouraged to develop their health science interests by attending departmental research seminars and external events.
- Work-based experiential learning.

Part 4: Student Learning and Student Support

At level 0, students take a range of modules to provide a comprehensive background in the biological and physical sciences. These equip students with the appropriate knowledge and skills to undertake the level 1 modules. Level 1 core modules provide a core knowledge and skills in anatomy, physiology, pharmacology, pathology, data analysis and patient-care. In addition, observational visits to NHS clinical cardiology and respiratory and sleep departments consolidate the student learning and experience. In year 2, modules include specialist healthcare science cardiac and respiratory physiology and pathophysiology modules, and research skills learning to support their placements. Final year modules comprise of advanced clinical and physiological subjects.

The programme is greatly enhanced by involvement of specialists from around the South-West region. Clinical physiologists from leading centres (Bristol Heart Institute; Department of Respiratory Medicine at University Hospitals Bristol, Royal United Hospital, Great Western Hospital, Bristol Children's Hospital) participate in programme teaching and governance.

Placements are arranged as follows:

- Level 1 – 10 weeks of experiential placement-related activity (including, 1 week in January and 6 weeks in the summer) in local healthcare settings. The 6 week placement is preceded by a pre-placement training week at UWE covering areas such as Basic Life Support, Manual Handling, Professionalism and Health and Safety. The remaining time is comprised of specialist practicals and observational visits as part of specialist modules. Students are recruited to one or other physiological pathway, but are exposed to both training routes within the first year for experiential purposes.)
- Level 2 – 15 week long placement over the summer in their chosen specialist area. Students gain practical experience of their chosen healthcare setting, and develop their professional skills within the workplace. Prior to the end of the placement they have developed an idea and undertaken preparatory work for their final year project.
- Level 3 – 25 week placement (January to July) including the research project module and completion of the Placement Practice and Training portfolios. Students receive specialist teaching including work-place technology and “live” case teaching.

All students have an Academic Personal Tutor offering 1:1 support plus tutor group meetings to support their learning, to offer guidance for their Personal Development Planning, and to discuss enhancement of their employability. Students will meet programme-specific tutors on a regular basis throughout the course. Whilst on placement students are supported by Placement Training Officers and Academic Visiting Tutors. For all students, access to academic staff and student advisers is by student e-mail or by personal access, and the University's Health & Wellbeing Service provides support and guidance to students on a wide range of issues.

Supporting student transition and students on placement

New students are supported in their transition to university by:

- A week long induction event including orientation and introduction to the programme team.
- Timetabled introductions to module leaders.
- Being supported throughout university by a personal tutor (Academic Personal Tutor APT)

Part 4: Student Learning and Student Support

scheme in year 0, 1, 2 and 3 project supervisor and visiting tutor in year 4).

- University-wide support services, all available and signposted via the virtual learning environment Blackboard “Programme Area”.
- Being provided with Programme and Module Handbooks that introduce the University and Faculty, alongside all the relevant support services, regulations and procedures.
- At the start of each year, a further induction enables students to plan their study as effectively as possible. Assessment maps showing all deadlines across the academic year are produced early in the academic year.

Placement students are supported by:

- A work-based supervisor who supervises their day-to-day practice activities; signs off professional competencies and oversees the completion of the final year project.
- A university tutor who undertakes visits to support the student, and who oversees progress on two final year modules – Professional Practice and Research Project.
- Students receive induction sessions prior to placement, including a week long pre-placement orientation event prior to their 1st summer placement.
- Placement learning is supported through a variety of web-based approaches, including Blackboard (VLE and an online assessment tool,) which is used to evidence, validate and assess portfolio learning within the Professional Practice Module.

All Handbooks and relevant information are also passed to work-based placement supervisors, and these individuals are provided with additional training sessions.

Employability and personal development

Students are supported during their time at UWE by academic tutors in years 0-4 Personal tutoring is within timetabled series of tutorials leading students through the development of basic academic skills (e.g. learning how to be a successful student), and also encompassing employability. In level 3, tutorial and pastoral support is provided by the visiting tutor.

The University Central Careers Service provides specialist subject advice, offering one-to-one sessions and regular drop in sessions. Enhancement opportunities such as becoming a student ambassador, voluntary work and engaging with enterprise activity are available to national and international students alike.

Students with specialist needs

In addition to a personal tutor who is a student’s first port of call, there is the university Health & Wellbeing Service that supports and guides on a range of non-curricular issues including welfare, disability and psychological support and counselling. Students with disabilities or learning differences are needs assessed, and any specific learning support measures can be implemented e.g. in the classroom or examinations, and through support of the programme team.

Laboratory resources

The Faculty has a well-equipped range of scientific laboratories and specialist facilities for teaching and research in physiology and biosciences. Theoretical components are underpinned by laboratory practicals that explore scientific principles and mechanisms, and additional clinical

Part 4: Student Learning and Student Support

teaching applies the gained knowledge in a practical setting for the purpose of diagnostics and inquiry into the nature of disease.

New specialist healthcare training facilities are available at Glenside within the Skills and Simulation Centre (<http://info.uwe.ac.uk/news/uwenews/news.aspx?id=2644>), therefore enhancing the acquisition of practical and professional skills. In the work-place, students learn a range of physiological techniques where they apply their technical aptitude to clinical practice.

Students develop a range of key skills required of a scientist, including systematic literature searches, critical review and information management. Modules incorporate research methodology and design, statistical and data handling, diagnostics and problem-solving. Information technology is core to the delivery of every module, and an integral part of assessment strategy.

Library and technology enhanced learning

The libraries at Frenchay and Glenside campuses provide an extensive range of literature for the programme. Students have 24-hour access to computers, and IT support services are available within the Faculty of Applied Sciences and from the University's Computing Helpdesk. Students additionally have access to hospital libraries and resources whilst on placement.

Description of any Distinctive Features

The distinctive feature of "Physiological Sciences" is the collaborative partnership between the University and the NHS Service Providers. Partners have designed the specialist curriculum, may contribute to the delivery and assessment of specialist training, and oversee student development and acquisition of competencies as part of each and every placement. As required by the professional bodies that govern the programme, an additional feature is the involvement of stakeholders – clinicians, patients, care providers – in elements of the programme. This ensures patient-input into care and decision-making of all future physiologists, and ensures that students understand the broader socio-political picture of working in healthcare settings.

Part 5: Assessment

Approved to [University Regulations and Procedures](#)

Healthcare Science is accredited by Health Education England Healthcare Science Programme Board. In meeting that accreditation UWE recognise the following:

"No condonement/compensation of modules and no aggregation of marks are permitted for degrees approved by Modernising Scientific Careers (MSC). Students must pass all modules to be eligible for the award of the MSC accredited degree. This approach is required irrespective of the HEI's own academic regulations."

The programme will have at least one external examiner appointed from the relevant professional body.

Assessment Strategy

Assessment strategy to enable the learning outcomes to be achieved and demonstrated:

Part 5: Assessment

One of the four ambitions of the new UWE 2020 Strategy is to become the best university for:

“Professionally recognised and practice-oriented programmes, which contribute to an outstanding learning experience and generate excellent graduate employment opportunities and outcomes for all students”.

(<http://www1.uwe.ac.uk/aboutus/visionandmission/strategy.aspx>).

The suite of Healthcare Science programmes are professionally accredited and practice-oriented, and map directly to the strategic ambition of the university. Student personal and professional growth is facilitated by a range of authentic assessments such as practical observations and problem-solving case studies, to generate employment-ready graduates that are required by the healthcare sector.

The assessment strategy maps with the UWE regulations, and the assessment outcomes ensure students are consistent with the awards of Certificate, Diploma or Degree in accordance with the QAA Framework for Higher Education Qualifications.

The subject requirements as framed by the MSC curriculum and Standards and QAA Subject Benchmarks (Biomedical Science, Bioscience and Clinical Science) build from levels 0 to 3, from a basic foundation in bioscience knowledge and analytical skills, through to level 3 with more specialist physiological subjects at an advanced level.

The alignment of assessment strategy with learning outcomes is as follows:

Subject knowledge and understanding:

Acquisition of knowledge is achieved through a variety of methods including lectures, practicals, seminars, tutorials, case studies, observation, ‘live’ case study, project work, training placements and completion of training portfolios relevant to cardiology or respiratory / sleep sciences. Additional support is provided through blended learning.

Knowledge is assessed through practical tasks, coursework and examinations, as well as evidence compiled in the training portfolios. Assessment methods are specified in each module guide and are varied and designed to test the learning outcomes.

Intellectual skills and ability:

A variety of assessment methods are employed to test the development of higher order thinking and skills. Some assessments test a learner’s ability to demonstrate skills through examinations, but assessment of the training portfolios, coursework and practical project work including student oral presentation is the main vehicle for assessment of higher order intellectual skills such as critical thinking and problem solving.

Subject, Professional and Practical Skills

These skills are developed progressively throughout the programme. Level 0 & 1 includes the acquisition of basic skills and safe working practices, while at level 2 more advanced techniques and open-ended practical work are introduced. Professional skills are central to the ethos of all Healthcare Science-specific modules as well as being acquired through appropriate clinical placements throughout the programme.

These skills are assessed through practical reports, coursework and research projects – proposal, oral presentation and report. Professional Practice skills are further assessed through

Part 5: Assessment

the training portfolios. Additionally, skill Subject/Professional/Practical Skills relating to research processes, ethics and governance are assessed in the final year research project.

Transferable Skills and other attributes

The Healthcare Science degrees that have integrated work-based training give graduates the opportunity to be “employment-ready” with many transferrable attributes. Students learn independence, time management and working within multidisciplinary teams at an early stage. More basic skills of IT, literacy and numeracy are core to each module, and being a programme that is fundamentally based on physiological measurement, students acquire advanced levels of data, analytical and interpretative skills.

Assessment Map

The programme encompasses a range of **assessment methods** including; (*eg essays, posters, presentations, written examinations*). These are detailed in the following assessment map:

Assessment Map for Healthcare Science (Physiological Science)

| * | | Unseen Written Exam | In-class Written Test | Practical Skills Assessment | Oral assessment and/or presentation | Written Assignment (essay / case study) | Written Assignment (data / statistical analysis) | Project / Report | Portfolio |
|-----------------------------------|--|---------------------|-----------------------|-----------------------------|-------------------------------------|---|--|------------------|-----------|
| Compulsory Modules Level 0 | USSKJ-30-0 Biology in Practice | A (40) | | | | B (30) | | | B (30) |
| | USSKCK-30-0 Chemistry in Practice | A (40) | | | | | B (30) | | B (30) |
| | USSKCL-30-0 Skills for Science | A (40) | | | | | B (30) | | |
| | USSKCM-30-0 People and Science | A (40) | | | B (30) | | B (30) | | |
| Compulsory Modules Level 1 | USSKA3-30-1 Anatomy & Physiology | A (40) | B (30) | | | | B (30) | | |
| | USSKA5-30-1 Biomedical Skills | A (40) | | | | | B (30) | | B (30) |
| | USSKA4-30-1 Cell Biol, Biochem & Genetics | A (40) | | | | B (30) | B (30) | | |
| | USSKA7-30-1 Introduction to Physiological Science & Patient Care | B (50) | | | | B (50) | | | A P/F |
| | USSKAR-30-2 Practice & Comms of Science | A (50) | | | B (25) | | B (25) | | |
| | USSKMB-30-2 Diagnostic & Professional Practice | B (50) | | | | B (50) | | | A P/F |
| | USSKAW-30-2 Cardiovascular Physiol & Pathophysiol A (CARDIO) | A (50) | | | | B (50) | | | |
| | USSKAX-30-2 Cardiovascular Physiol & Pathophysiol B (CARDIO) | A (50) | | | | B (50) | | | |
| | USSKAY-30-2 Respiratory & Sleep Physiol & Pathophysiol A (RESP) | A (50) | | | | B (50) | | | |
| | USSKBA-30-2 Respiratory & Sleep Physiol & Pathophysiol B (RESP) | A (50) | | | | B (50) | | | |

Part 5: Assessment

| | | | | | | | | | |
|-----------------------------------|---|--------|--|---------|--------|----------|--|--------|---------|
| Compulsory Modules Level 3 | USSJSJ-30-3 Healthcare Project | | | | A (20) | A (20) | | A (60) | |
| | USSJSK-30-3 Professional Practice | | | A (P/F) | | B (3x33) | | | A (P/F) |
| | USSJY3-30-3 Advanced Cardiac Physiology A (CARDIO) | A (50) | | | | B (50) | | | |
| | USSJY4-30-3 Advanced Cardiac Physiology B (CARDIO) | A (25) | | A (25) | | B (50) | | | |
| | USSJYB-30-3 Advanced Respiratory & Sleep Physiology A (RESP) | A (50) | | | B (15) | B (35) | | | |
| | USSJYC-30-3 Advanced Respiratory & Sleep Physiology B (RESP) | A (25) | | A (25) | B (15) | B (35) | | | |

*Assessment should be shown in terms of either **Written Exams**, **Practical exams**, or **Coursework** as indicated by the colour coding above.

Part 6: Programme Structure

All modules are COMPULSORY although students will take CARDIO or RESP depending on their specialist area.

| ENTRY | | Compulsory Modules | Optional Modules | Interim Awards |
|--|--------------------|---------------------------------------|------------------|--|
| Level 0 | USSKJ-30-0 | Biology in Practice | None | None |
| | USSKCK-30-0 | Chemistry in Practice | | |
| | USSKCL-30-0 | Skills for Science | | |
| | USSKCM-30-0 | People and Science | | |
| Level 1 | Compulsory Modules | | Optional Modules | Interim Awards |
| | USSKA3-30-1 | Anatomy & Physiology | none | Cert HE Healthcare Science Credit requirements: 120 (not less than 120 at Level 1 or above) |
| | USSKA5-30-1 | Biomedical Skills | | |
| | USSKA4-30-1 | Cell Biology, Biochemistry & Genetics | | |
| | USSKA9-30-1 | Introduction to Physiological Science | | |
| Compulsory Modules including *2 specialist modules as appropriate to pathway | | Optional Modules | | |

| | | | |
|--|---|------|--|
| | USSKAR-30-2 Practice and Communication of Science | none | Dip HE Healthcare Science Credit requirements: 240 (not less than 100 at Level 2 or above, and 120 at Level 1 or above) |
| | USSKMB-30-2 Diagnostic & Professional Practice in Healthcare Science | | |
| | USSKAW-30-2 Cardiovascular Physiology & Pathophysiology A (CARDIO)* | | |
| | USSKAX-30-2 Cardiovascular Physiology & Pathophysiology (CARDIO)* | | |
| | USSKAY-30-2 Respiratory & Sleep Physiol & Pathophysiol A (RESP)* | | |
| | USSKBA-30-2 Respiratory & Sleep Physiol & Pathophysiol B (RESP)* | | |

| | Compulsory Modules including *2 specialist modules as appropriate to pathway | Optional Modules | Interim Awards |
|---------|---|------------------|---|
| Level 3 | USSJSJ-30-3 Health Care Science Project | none | BSc Healthcare Science Credit requirements: 300 (of which not less than 60 are Level 3 or above, 100 are at Level 2 or above, and 120 are Level 1 or above) |
| | USSJSK-30-3 Professional Practice | | |
| | USSJY3-30-3 Advanced Cardiac Physiology A (CARDIO)* | | |
| | USSJY4-30-3 Advanced Cardiac Physiology B (CARDIO)* | | |
| | USSJYB-30-3 Advanced Respiratory & Sleep Physiology A (RESP)* | | |
| | USSJYC-30-3 Advanced Respiratory & Sleep Physiology B (RESP)* | | |

GRADUATION

BSc (Hons) Healthcare Science (Cardiovascular Science)

or

BSc (Hons) Healthcare Science (Respiratory & Sleep Science)

□ Credit requirements:

360 (not less than 100 at Level 3 or above, 100 at Level 2 or above, and 140 at Level 1 or above)

Part 7: Entry Requirements

Admission into the Healthcare Science Programme will be administered by the Faculty Admissions Team and programme lead.

Admission to the course will be subject to interview for which the panel will comprise an academic and a professional from clinical practice.

Professional Body Accreditation by RCCP requires:

“Education providers must ensure appropriate entry level qualifications. Applicants must have a minimum score of 7.0 in all sections of the International English Language Testing system (IELTS).”

Entry at level 1:

Tariff points: The University's Standard Entry Requirements apply. The UCAS points tariff will be reviewed on a regular basis and published for new applicants. Tariff points as appropriate for the year of entry - up to date requirements are available through the courses database.

Non-standard applicants without appropriate A-levels, or an equivalent qualification, will be considered on a case-by-case basis, but may be required to complete the level 0 year.

Health assessment/declaration/vaccinations. Applicants must be in good health and be up-to-date with routine immunisations e.g. tetanus, diphtheria, polio and MMR. Applicants who are offered a place will be required to complete a questionnaire and must be prepared to undergo a medical examination. Applicants will also be required to confirm their status in respect of a number of infectious diseases and immunisations (tuberculosis, measles, mumps, rubella, chicken pox, varicella, hepatitis B, hepatitis C, HIV antibodies) and be prepared to have all required vaccinations. If vaccinations are not up-to-date this will affect ability to continue on the course. Concerns with regards to vaccinations should be raised at the point of application.

Disclosure of Criminal Background - the Rehabilitation of Offenders Act 1974 does not apply and all convictions, including those which are spent, must be disclosed. This is in accordance with the Rehabilitation of Offenders Act 1974 (Exceptions) Order 1975. Applicants who are offered a place must undergo a Disclosure and Barring Service (DBS) check and will be required to complete a Disclosure Application Form. All information will be treated in confidence and only taken into account when absolutely necessary.

Part 8: Reference Points and Benchmarks

The aim of the Department of BBAS is to evolve a portfolio of programmes that align with the UWE 2020 Strategy that includes:

“Connecting and working with our local and regional economy, businesses and communities and international partners to advance knowledge, and to advance the health, sustainability and prosperity of our locality and region”.

“Being digitally advanced, agile and responsive in the way we work, embracing and leading change to create new sustainable opportunities”.

Healthcare Science connects with external partners including business, the National Health Service and communities, and to achieve high quality and outstanding delivery, our programmes are aligned with quality and professional frameworks.

Modernising Scientific Careers Curriculum

The programme has been closely designed against the learning outcomes and indicative content set out within the “Modernising Scientific Careers Programme for BSc (Hons) in Healthcare Science, Cardiovascular, Respiratory and Sleep Sciences (Physiological Sciences, 2011/12)”.

It complies with competencies listed in the “Healthcare Science Practitioner Training Programme Training Manual (2011/12) for Physiological Sciences: Cardiovascular, Respiratory and Sleep Sciences”.

Health and Care Professions Council Standards

The programme is consistent with the Health and Care Professions Council standards, in particular “Health & Care Professions Council (2009) Standards of Education and Training” and “Health & Care Professions Council (2008) Standards of Conduct, Performance, and Ethics”.

Qualification descriptors used in the QAA Framework for Higher Education Qualifications (2008)

The learning outcomes for the programme have been developed with reference to the qualification descriptors used in the QAA Framework for HE Qualifications. The learning outcomes for modules at level one and level two have been considered to be consistent with the award of a Certificate in Higher Education and a Diploma in Higher Education, respectively. Graduates of the award will have acquired the knowledge and understanding, and gained the intellectual, subject, professional, practical and transferable skills listed in previous sections.

QAA subject benchmarks

Our curricula and skills map to the QAA subject benchmark statements for **Biomedical Science, Bioscience and Clinical Science** in order to embrace a broad range of scientific and medical knowledge, alongside the research and practical skills that are expected of a graduate in order to become a competent Healthcare Scientist.

Biomedical Science

Part 8: Reference Points and Benchmarks

- The Basic Knowledge sub-headings are listed as human anatomy and physiology, cell biology, biochemistry, genetics, molecular biology, immunology and microbiology, all of which map to modules in this programme. Students gain an integrated knowledge of the human body at a physiological, cellular, molecular and genetic level, in both health and disease.
- The programme maps to the goal of understanding a “multidisciplinary approach to the study of human disease”, they also develop “an awareness of the current methods used for the laboratory investigation, diagnosis and monitoring of disease.”

Biosciences

- Relevant benchmarks include providing the student with understanding of “a family of methods and disciplines grouped around the investigation of life processes”.
- Reflecting the Bioscience benchmarks for numeracy and IT, our programme includes bioinformatics and statistics. The benchmark typical standard includes students being able to: “describe and critically evaluate the evidence for the mechanisms of life processes”; “interpret the significance of internal and external influences on the integration of metabolism for survival and health”.

Clinical Science

- This benchmark statement describes the nature and standards of programmes of study and training in clinical science that lead to awards made by the Association of Clinical Scientists. Learning outcomes for cardiology physiologists and respiratory physiologists are also mapped to the Health and Care Professions Council Standards of Proficiency.
- The benchmark typical standard includes students being able to: “deliver quality patient/client-centred care; practice in an anti-discriminatory manner”; “draw on appropriate knowledge and skills in order to make professional judgements”; “recognize the limits of their practice and knowing when to seek advice”; “summarise and present complex scientific ideas in an appropriate form”.
- The benchmark statements concerning knowledge and understanding, state that the student will have a detailed knowledge of the “science underpinning the modality in which the registrant practices, relevant basic clinical medicine and the fundamental principles of clinical practice;” and “the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process” map to final year modules including the research project.

University teaching and learning policies

In line with the University’s teaching and learning policies, this programme takes a student-centered approach to learning by allowing students to take control of aspects of their learning and providing a learning environment that stimulates active participation and engagement in the learning process. The programme seeks to create an environment that stimulates students to take responsibility for aspects of their learning, while lecturers facilitate that learning. The module learning outcomes are designed to ensure that students meet the overall programme learning outcomes by completion.

A variety of assessment methods is incorporated within the programme to cater for a diversity of student strengths and abilities. The course team recognises the importance of both formative and summative assessment activity as an integral part of the learning and teaching process. All assessments comply with the University Assessment Policy, Academic Regulations and Procedures and the Workbased Learning Policy

(<http://www1.uwe.ac.uk/aboutus/policies>).

Part 8: Reference Points and Benchmarks

Research themes underpinning the programme

Academic staff involved in the programme are from a diversity of backgrounds including industry, healthcare and research, and their interests inform module delivery. The majority of staff involved are research active and the Faculty strongly supports the research activities, particularly within the Centre for Research in Biosciences (CRIB), which was submitted to REF in UoA12 – Allied Health Professions and Studies.

Student final year projects will be work-based forming a tripartite team of clinical specialist, academic researcher and student.

Learning and teaching excellence

The quality of learning and teaching within the department is reflected in the awards of two university teacher fellows and one national teacher fellow, and actively publish in education research. The Quality, Management and Enhancement (QME) of the provision is further enhanced through staff development. Staff receive annual appraisals, in-house training, and are actively encouraged to attend external courses and conferences, for which the faculty provides funds.

New academic staff undertake a one-year Academic Professional Development Programme which leads to Post-Graduate Certificate in Education, which is accredited by the Higher Education Academy (HEA). All staff are actively encouraged toward university and national teacher awards and fellowships.

External interaction and outreach

The integrated nature of the programme necessitates ongoing and close liaison with employers of Healthcare Scientists within the national health service. This is extremely important and is achieved in the following ways:

- A culture of two-way communication exists between University academic staff and biomedical scientists within the South West, in particular the Joint Training Officers (JTO) group, and UWE's representation on the South West Regional MSC Implementation Board.
- UWE is a participant member of the Association of Clinical Physiology Educators who meet twice a year and who interact directly with the Registration Council for Clinical Physiologists Professional Bodies Education Committee (RCCP-PBEC). These and many other opportunities for sharing ideas and views exist and are actively used to the advantage of all parties.
- Physiologist practitioners are actively involved in the design, delivery and continued development of the Healthcare Science programme. Similarly, service users are consulted on a regular basis to ensure that the programmes deliver training that matches service needs.
- The JTO Committee monitors provides a valuable forum for practitioners' views on the undergraduate provision, and for discussion pertaining to development of the degree programme. Members also contribute to portfolio verification (external) to ensure quality standards across placement sites.
- Academic staff supervising local hospital placements facilitate the development of collaborations, and achieve valuable professional "voice" that advises all of our programmes.

Part 8: Reference Points and Benchmarks

This specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of individual modules can be found in module specifications, available on the [University's website](#).

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|--|------------------|---------|---|-----------------------------------|
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