

# **ACADEMIC SERVICES**

# **PROGRAMME SPECIFICATION**

Part 1: Basic Data							
Awarding Institution	University of the West of	f England, Bristol					
Teaching Institution	University of the West of	f England, Bristol					
Delivery Location	Frenchay and Glenside	Campuses					
Faculty responsible for programme	Health and Applied Scie	nces					
Department responsible for programme	Biological, Biomedical a	nd Analytical Science (BBAS)					
Modular Scheme Title	Any faculty modular sch	Any faculty modular scheme linking named programmes					
Professional Statutory or Regulatory Body Links	Institute of Biomedical Science (from 2007); Health and Care Professions Council;						
Highest Award Title	BSc (Honours) Biomedical Science						
Default Award Title							
Fall-back Award Title							
Interim Award Titles	BSc Biomedical Science Dip HE Biomedical Science Cert HE Biomedical Science	nce					
UWE Progression Route	N/A						
Mode(s) of Delivery	FT / SW / PT /						
Codes	UCAS:C980	JACS: C980					
Relevant QAA Subject Benchmark Statements	ISIS2:C980  Bioscience and Biome	HESA:					
CAP Approval Date							
Valid from	September 2011						
Valid until Date	September 2017						
Version	6						
Approved by CAP	28/03/2014						

## Part 2: Educational Aims of the Programme

The BSc (Hons) Biomedical Science programme is designed for students interested in taking a hands-on approach to studying the biology of disease. The programme is within our extensive biomedical science provision with an emphasis on the application of biomedical sciences and provision of a relevant education and practical skills that affords employment opportunities.

The programme combines theoretical and laboratory approaches to understanding the human body, and at more advanced levels is research-informed and aligned with **10 biomedical themes**, with the majority of staff research-active as part of the Departmental Centre for Research in Biosciences (CRIB -

http://www1.uwe.ac.uk/hls/research/biosciences/researchareas.aspx).

# The programme provides:

- a distinct offering from Healthcare Science (Life Science) through being research-informed at advanced levels as opposed to practice-based scientific enquiry.
- opportunities for students from a wide range of backgrounds to develop and realise their potential in a supportive and responsive teaching and learning environment.
- added value for learners in their specialised, subject-specific knowledge and transferable skills
- a coherent and flexible programme of study with a variety of attendance modes including a sandwich degree option.
- graduates with an accredited degree route suited to the pursuance (but not exclusively) of a career as a Biomedical Scientist following training at an accredited NHS laboratory, completion of a Registration Training Portfolio, and approval by the Health and Care Professions Council.
- a programme responsive to feedback from students, external examiners and other stakeholders as part of quality programme management and enhancement.
- appropriate facilities and resources to deliver a quality teaching and learning experience.

#### More specific aims:

The programme integrates a wide range of bioscience subjects in the study of the biology of disease. The combination of modules offered enables students to understand the science of the causes, diagnosis and treatment of disease while working at the cutting edge of biomedical sciences using state-of-the-art equipment and learning support material.

The modules are research-informed and where possible are led by the research and professional experience of staff. The programme is aligned to 10 biomedical themes, and at levels 2 or 3, students can chose to develop a specialist theme (e.g. pharmacology, cell biology, toxicology, haematology) that might align with future career prospects. More entrepreneurial students can chose specialisms of science communications or enterprise. Students wishing to follow NHS Healthcare Science training can specialize in the relevant pathways, e.g. blood sciences, immunology, genetics, cell pathology or microbiology.

Teaching, learning and assessment is enhanced by the use of technology, for example, online-assessment and feedback, and the use of open educational resources (and other inhouse resources) in flipped classroom scenarios to support practical teaching.

# Part 2: Educational Aims of the Programme

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

Biomedical Science (BSc, Honours) is accredited by the Institute of Biomedical Science and aligns to the framework of the Healthcare Science Modernising Scientific Careers as a training route for NHS scientists. The course also offers great flexibility of choice for students aiming for alternative scientific careers. At advanced levels, it aligns to 10 biomedical science themes, led by staff who are research-active within the Departmental Centre for Research in Biosciences. Students therefore gain a breadth of practical competencies alongside insight into cutting-edge research. This degree creates independent thinkers, graduates with outstanding analytical and problem-solving skills, and equips them for a range of scientific or medical-related careers.

# 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 1 and 2, including L2 Optional – O – modules)  A) Knowledge and understanding of:	L1 Anatomy & Physiol	L1 Cell Biol, Biochem & Genetics	L1 Pathophysiol of Disease	L1 Biomedical Skills	L2 Practice & Comms of Science	L2 Physiol & Immunol Systems	L2 Studies in the Biol of Disease	L2 O Cell Signalling	L2 O Drugs and Disease	L2 O Microbiology	L2 O Molecular Genetics	L2 O Medicinal Chemistry
Laboratory practical (P); Research skills (R)	Р	Р	Р	P R	R	Р	Р			Р	Р	Р
Students will develop understanding of:												
Core biomedical science subject areas and a more specialist and deeper understanding of advancing areas of science												
The context of biomedical sciences and its application to practical problems within healthcare and research arenas												
The main attributes and the contribution of research and scholarship in their chosen specialist areas of biomedical science												
(B) Intellectual Skills Students will develop the ability to:		<u> </u>					<u>I</u>					

Part 3: Learning Outcomes of the Programme (Levels 1 and 2)											
	stion and seek										
relevant info											
	nd contrast information										
offline	nt sources online and										
	aluata information										
	aluate information										
research so	otheses in a range of										
	lyse and apply										
	ving strategies										
	e independent self-										
	rning, and skills for life-										
long learning											
(C)	9			İ	<u> </u>	İ	İ	<u>i</u>	i		
	ofessional/Practical										
Students wil	I develop the ability to:										
	serve, analyse and										
	ormation arising from a										
wide range	of sources										
	cal approaches to										
	medical science, and										
	research governance										
	fety and good										
laboratory p											
	te effectively scientific										
	ncepts in written and										
oral form			_								
	cipline-specific										
	specialising within the										
and/or care	in relation to subject										
	e an understanding of										
	n process through the										
	execution of an										
	t research project										
	rable skills and other	<u> </u>	i	İ	<u>i</u>	<u> </u>	<u> </u>	<u>i</u>			
attributes											
	I develop the ability to:						Ī				
	te effectively and	İ			<u>†</u>		İ				
	y using a variety of										
methods											
Critically and	d statistically present										
	data arising from										
	ns of inquiry					Ļ					
	ctive learning and										
developmen						ļ	ļ				
	nation management										
skills						ļ					
Practice effe											
	nt and become										
	t and lifelong learners										
	rformance of self and										
	gh reflective practice										
and observa	ation										

# 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:

					1									
Learning Outcomes: (Level 3)	L3 Research Dissertation OR Research Experimental Project	L3 Haematology	L3 Cell Pathology & Oncology	L3 Immunology	L3 Clinical Biochemistry	L3 Medical Microbiology	L3 Medical Genetics	L3 O Pharmacology & Toxicology	L3 O Genomic Technologies	L3 O Antimicrobial Agents	L3 O Pathophysiology	L3 O Neuropharmacology	L3 O Scientific Frontiers & Enterprise	L3 Scientific Communications
A) Knowledge and understanding														
of:	D/D			Ţ	Ĭ	Ī	Ī		······	Ī				
Laboratory practical (P);	P/R		Р					Р						
Students will develop														
understanding of:														
Core biomedical science subject														
areas and a more specialist and deeper understanding of														
advancing areas of science														
The context of biomedical sciences					ļ	ļ	ļ	ļ						
and its application to practical														
problems within healthcare and														
research arenas														
The main attributes and the														
contribution of research and														
scholarship in their chosen														
specialist areas of biomedical														
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					ļ									
Critically evaluate information														
against hypotheses in a range of														
research scenarios					ļ									
Actively analyse and apply														
problem-solving strategies														
Demonstrate independent self-														
directed learning, and skills for life-														
long learning (C)					<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>				
Subject/Professional/Practical Skills														
Students will develop the ability to:														
Critically observe, analyse and					<u></u>		<u> </u>	<b></b>	<u></u>					
evaluate information arising from a														
wide range of sources														

Part 3: Learning Outcomes of the	ne Progra	amme (L	evel 3)	)			
Apply practical approaches to studying biomedical science, and							
be aware of research governance							
including safety and good							
laboratory practice						 	
Communicate effectively scientific							
data and concepts in written and							
oral form  Develop discipline-specific							
interests by specialising within the							
programme in relation to subject							
and/or career aspiration							
Demonstrate an understanding of						 	 
the research process through the							
successful execution of an							
independent research project							 
(D) Transferable skills and other attributes							
Students will develop the ability to:						 	 
Communicate effectively and						 	 
appropriately using a variety of							
methods							
Critically and statistically present						 	 
and analyse data arising from							
various means of inquiry						 	
Undertake active learning and							
development						 	 
Apply information management skills							
Practice effective time							 
management and become							
independent and lifelong learners							
Evaluate performance of self and						 	 
others through reflective practice							
and observation							

Teaching and learning strategies to enable learning outcomes to be achieved and demonstrated

#### Professional Accreditation

The programme is currently accredited by the Institute of Biomedical Science (IBMS). Students graduating with Honours are entitled to claim Licentiate Membership of the Institute. Those graduates who subsequently undertake a satisfactory period of specific training enabling them to complete a Registration Training Portfolio are eligible to apply to the Health and Care Professions Council (HCPC) for registration as a Biomedical Scientist.

# Laboratory resources

The Faculty has a well-equipped range of general laboratories, specialised scientific equipment and specialist facilities appropriate for teaching and research in biosciences and biomedicine.

Support for laboratory-based scientific inquiry is enhanced by research methods modules each year - Biomedical Skills; Practice and Communication of Science (statistics module); Research Project. Students develop a range of key skills required of a scientist, including systematic literature searches, critical review, research methodology and design, statistical and data handling, problem-solving, and IT.

In years 2 and 3, students have the option to pursue research interests and can select module options accordingly aligned to 10 themes. Therefore they can focus on specialist laboratory techniques and study the underpinning theory that may inform their future career choices, e.g. as a Toxicologist, Pharmacologist, or in IBMS-disciplines of genetics, haematology, cell pathology, immunology or microbiology.

# 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 a range of face-to-face activities, in addition to online learning and independent learning that enable the learning outcomes to be achieved and demonstrated. The following activities take place:

- 1) Scheduled learning lectures, seminars, tutorials, project supervision, practical classes. Activities may include field trips and external visits, or work based learning on short-term internships or longer-term placements. Scheduled sessions may vary slightly depending on the module choices made.
- 2) 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 scientific interests by attending departmental research seminars and external events.
- 3) Placement learning students may experience a UWE internship, vocational placement or year-long placement (national or international).

# Supporting student transition

New students are supported by a series of initial events including a week long induction, timetabled introductions to the programme and modules, and each is supported throughout university by a personal tutor (Academic Personal Tutor APT scheme in year 1 and 2; project supervisor in the Graduate Development Programme GDP scheme in year 3).

All students are provided with essential and extra-curricular programme and university-wide information through a Blackboard Programme Shell. Through this students access their Student Handbooks which provides an introduction to the University and Faculty, alongside all the relevant support services, regulations and procedures. At each level, induction is provided to enable students to plan their study of modules as effectively as possible. Assessment maps showing all deadlines across the academic year are produced. In addition to the overarching Student Handbook, students receive inductions and handbooks at the start of the year relevant to each module.

#### Employability and personal development

Students are supported during their time at UWE by academic personal tutors (APT). The 'APT' is a 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. Students meet tutors fortnightly in levels 1 and 2 as a group, and also individually for one-to-one sessions.

Employability skills and opportunities are developed from day 1, and UWE provides scope for students to apply for voluntary activities, paid internships and external placements. Students have the opportunity to undertake a placement in their third year as part of the sandwich degree option. A placement tutor is allocated and makes planned visits to provide support and to liaise with work place supervisors and assessors. Students on placement may take an optional Professional Practice Module which is managed through our bespoke online system called "Profile", an innovative web-based interface designed to support, capture and reward placement learning. The Placements Learning Unit oversees the optional placement year.

Where students are able to gain a placement position within a National Health Service laboratory, and therefore have the opportunity to complete their professional body portfolio, they enter the final year of the "Applied" Biomedical Science (Clinical) Programme (BSc Honours), which leads to HCPC Registration.

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 Centre for Student Affairs (CSA) 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.

# Library and technology enhanced learning

The library at Frenchay campus provides an extensive range of literature for the programme, and students have support from a subject-specific librarian. Students have 24-hour access to computers, and IT support services are available from the University's Computing Helpdesk.

#### **Description of any Distinctive Features**

## Hands-on science!

The Department of BBAS prides itself with an outstanding level of practical provision. In years 1 and 2, 9 out of the 12 modules offer integrate laboratory investigation. This degree is offered as a "sandwich" option should students wish to gain more substantial laboratory experience (as accounted for on the Programme Template for BSc (Honours) Applied Biomedical Science (Clinical)). Most of the academic staff are research-active, and additional paid summer research internships are available to students to enhance their experience.

#### Research and innovation

Students have module choices based around departmental research themes in years 2 and 3.

The Experimental Research Project module gives students the opportunity to engage in a research project working alongside active researchers and post-graduate students in areas including medical genetics, infection and immunity, pharmacology, haematology, molecular genetics, cell signaling and cancer biology/cell pathology. In addition, students can attend the Centre for Research in Bioscience (CRIB) seminars and research conference events, as well as other research events that attract external speakers. For many final year modules, aspects are taught by external experts in the field.

The Faculty has a longstanding investment in web-based support for teaching and learning with a learning technologist team working alongside academic staff. Supplementary learning resources and access to formative quizzes so students can test their knowledge and understanding is available through Blackboard. The department has a bespoke experiential learning platform supporting placements (Profile); anatomy and physiology teaching is enhanced by innovative 3D software.

#### Part 5: Assessment

Approved to University Regulations and Procedures

## Assessment Strategy

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

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 Biomedical Science is a professionally accredited and research-oriented programme, and the range and types of assessments underpin the personal and professional skills of the science employment sector. The ethos underlying the programme is to generate good quality researchers, and many so assessments focus on developing student scientific writing skills, and/or involve data and statistical analysis, usually writing up data acquired in laboratory practicals, or based on researcher's own data.

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. Graduates will achieve the personal and professional skills and underpinning knowledge listed below.

The subject requirements as framed by the IBMS and QAA Subject Benchmarks (Biomedical Science and Bioscience) build from years 1 to 3, from a basic foundation in bioscience knowledge and analytical skills, through to years 3 with more specialist choices at an advanced level, informed by the research interests of staff (e.g. Cancer Biology, Infection and Immunity, Intracellular signalling/Alzheimer's Disease/Regenerative medicine) as well as the IBMS specialisms (Cellular Pathology, Clinical Biochemistry, Immunology, Haematology & Transfusion and Medical Microbiology).

#### Part 5: Assessment

Alignment of assessment strategy with learning outcomes is as follows:

## Subject knowledge and understanding:

Gained through face-to-face and independent learning opportunities, subject knowledge will be assessed through coursework, examinations and laboratory tasks. Activities include research data analysis; desk top research, scientific writing, oral and poster communication. Methods are specified in each module guide and are varied and designed to test the learning outcomes.

# Intellectual skills and ability:

Through a range of formative and summative assessment opportunities, the student develops intellectual skills demonstrating subject and research understanding at level 1 building up to critical thinking and problem solving at level 3. The level of independence and reflective practice also advances from year to year. The research project is designed to permit students to demonstrate achievement of all the learning outcomes 1-5 (part 3).

## Subject, Professional and Practical Skills

To critically observe, apply approaches, communicate and demonstrate broader scientific interests, these skills are taught progressively throughout the levels of the programme. Basic skills (literacy, numeracy, safe laboratory practices) are assessed through prescribed exercises. At level 2, open ended practical work is introduced. At level 3, in depth assessments and the research project is pivotal to the acquisition and consolidation of these 5 skills. Assessments mirror this at level 1 being more task based through practical reports and coursework; with more individual elements introduced at level 2 with oral and poster presentations, and at level 3 with dissemination of research outputs through a dissertation and oral poster defence.

#### Transferable Skills and other attributes

Students develop transferable skills (independent learning, IT, time management, literacy, numeracy and reflective practice) within each module and explicitly through skills modules each year. Through formative assessment, students develop skills of the reflective practitioner, and coursework feedback builds confidence and independent learning. Assessments include individual activities – essays, case studies, oral presentations, or can be group work – practicals, presentations. IT skills are honed through online assessment and data analysis tasks. All are honed through the final year independent research project, where students are encouraged to manage their own time and objectives.

# Part 5: Assessment

# Assessment Map

The programme encompasses a range of **assessment methods** detailed in the following assessment map:

# **Assessment Map for Biomedical Science**

Assessment map for biomedical ocience											
		Unseen Written Exam	In-class Written Test	Practical Skills Assessment	Oral assessment and/or presentation	Written Assignment (essay or case study)	Written Assignment (data and statistics)	Dissertation	Portfolio		
Campula	USSKA3-30-1 Anatomy & Physiology	A (40)	B (20)				B (30)				
Compuls ory	USSKA5-30-1	A (40)	(30)				B (30)		B (30)		
Modules	Biomedical Skills								D (00)		
Level 1	USSKA4-30-1 Cell Biol, Biochem & Genetics	A (40)				B (30)	B (30)				
	USSKA7-30-1	A (50)			B (25)	B (15)			B (10)		
	Pathophysiology of Disease					,	B (6=)		\		
Compuls	USSKAR-30-2 Practice & Comms of Science	A (50)			B (25)		B (25)				
ory	USSKAS-30-2	A (50)				-					
Modules	Physiological & Immunological	B (50)									
Level 2	Systems USSKAT-30-2	A (50)	<u> </u>			B (25)	B (25)		<u> </u>		
	Studies in the Biology of	71 (00)				D (20)	D (20)				
	Disease USSK5K-30-3				A (00)	A (40)		A (70)			
Compuls ory Modules Level 3	Research Dissertation Project OR USSKBC-30-3 Research Experimental Project				A (20)	A (10)		A (70)			
LCVCIO	USSKBH-30-3 Medical Genetics	A (60)				B (20,					
	USSKBJ-30-3	A (60)				20) B (10,					
	Medical Microbiology	A (00)				30)					
	USSKBK-30-3:	A (60)	<u> </u>		B (20)	B (20)			•		
	Haematology USSKBL-30-3	A (60)			D (20)	B (20)					
	Clinical Biochemistry	A (60)			B (20)	D (20)					
	USSKBM-30-3	A (60)			B (20)		B (20)				
	Cellular Pathology & Oncology USSKBN-30-3	A (60)			B (32)	B (8)					
	Immunology										
Ontional	USSKB3-15-2	A (50)			B (25)	B (25)					
Optional Modules	Drugs & Disease USSKB4-15-2	A (50)				B (50)					
Level 2	Cell Signalling					2 (00)					
	USSKB5-15-2 Medicinal Chemistry	A (50)							B (50)		
	USSKB6-15-2	A (50)				В	В				
	Microbiology	(55)				(37.5)	(12.5)				
	USSKB7-15-2	A (50)				B (50)					
	Molecular Genetics USSK57-15-3								Α		
Optional Modules	Professional Practice in Applied Science					^			(P/F)		
Level 3	USSKCE-15-3 Science Communication					A (50,50)					
	USSKBF- <b>30</b> -3	A (60)				B (20)	B (20)				
	Genomic Technologies	(55)				= (==)	- ()				

Part 5: Assessment  USSKCF-15-3		A (40)	B (60)
Scientific Frontiers and Enterprise		7.(.5)	2 (00)
USSKCA-15-3 Neuropharmacology	A (60)	B (40)	
USSKWB-15-3 Pathophysiology	A (60)	B (40)	
USSKBY-15-3 Antimicrobial Agents	A (60)	B (40)	
USSKBX-15-3 Pharmacology & Toxicology	A (60)		B (40)

<sup>\*</sup>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

This structure diagram demonstrates the student journey from Entry through to Graduation for a typical **full time student**, including: level and credit requirements, interim award requirements module diet, including compulsory and optional modules

ENTF	ENTRY		Compulsory Modules	Optional Modules	Interim Awards
			USSKA3-30-1		
			Anatomy & Physiology		
			USSKA5-30-1		
		<u>-</u>	Biomedical Skills		<ul> <li>Cert HE</li> </ul>

Biomedical Skills

USSKA4-30-1

Cell Biology,
Biochemistry & Genetics

USSKA7-30-1

Pathophysiology of
Disease

• Cert HE
Biomedical
Science

120 credits

	Compulsory Modules	Optional Modules *2 x 15 credit modules	Interim Awards
	USSKAR-30-2	USSKB3-15-2	
	Practice and	Drugs & Disease	
	Communication of		
	Science		
2	USSKAS-30-2	USSKB4-15-2	Dip HE
	Physiological &	Cell Signalling	Biomedical
Year	Immunological Systems		Science
	USSKAT-30-2	USSKB5-15-2	
	Studies in the Biology of	Medicinal Chemistry	240 credits (at least 100
	Disease		credits at level 2)
		USSKB6-15-2	
		Microbiology	
		USSKB7-15-2	
		Molecular Genetics	

	Compulsory Modules *1 project module *2 specialist modules	Optional Modules *30 credits from remaining specialist modules or optional modules	Interim Awards
Year 3	USSK5K-30-3 Research Dissertation Project	USSK57-15-3 Professional Practice in Applied Science	BSc Biomedical Science
×	OR USSKBC-30-3 Research Experimental Project	Applied Goldfie	Credit requirements: 300 (at least 60 credits at level 3)
	USSKBH-30-3 Medical Genetics	USSKCE-15-3 Science Communication	

	USSKBJ-30-3 Medical Microbiology	USSKBF- <b>30-</b> 3 Module name: Genomic Technologies	
-	USSKBK-30-3 Haematology	USSKCF-15-3 Scientific Frontiers and Enterprise	BSc (Hons)
-	USSKBL-30-3 Clinical Biochemistry USSKBM-30-3	USSKCA-15-3 Neuropharmacology USSKBW-15-3	Biomedical Science
	Cellular Pathology & Oncology	Pathophysiology	Credit requirements: 360 (at least 200 credits
-	USSKBN-30-3 Immunology	USSKBY-15-3 Antimicrobial Agents USSKBX-15-3	at level 2 or above; at least 100 at level 3)
		Pharmacology & Toxicology	

## **GRADUATION**

#### Part time:

The following structure diagram demonstrates the student journey from Entry through to Graduation for a typical **part time student**.

# **Part 7: Entry Requirements**

Admission into the Biomedical Sciences programme will be administered within the undergraduate programmes in biosciences. Standard offers for entry to the programme are 320 Tariff points in 2014. (The latest tariff can be found on the UWE website: http://courses.uwe.ac.uk/C980#entry).

Successful application to the programme must meet one of the following minimum requirements:

- GCE A level in two science subjects to include Chemistry or a Biology subject, plus grade C or above in three GCSE subjects, to include Mathematics, English Language and Double Science unless compensated for elsewhere.

# **Part 7: Entry Requirements**

- Registrant Biomedical Scientists must be able to communicate in English to the standard equivalent to level 7 of the International English Language Testing System, with no element below 6.5.
- National Certificate or Diploma in an appropriate subject such as biological sciences
- Pass in a recognised Access or Foundation course.

Additionally, applicants may be admitted to the programme provided they meet one of the following requirements and can demonstrate to the Faculty attainment equivalent to the GCE A level and GCSE subject areas specified above:

- The Advanced General National Vocational Qualification (AGNVQ) or Advanced General Scottish Vocational Qualification (AGSVQ)
- The Irish Leaving Certificate with Grade C or above in two subjects at Higher level and three subjects at Ordinary level
- The Scottish Leaving Certificate of Education with grade C in three subjects at Higher and grade 3 or above in two subjects at Standard grade or Intermediate 12
- National Vocational Qualifications or Scottish Vocational Qualifications at level III
- The European Baccalaureate
- The International Baccalaureate
- Compensation through Accreditation of Prior (Experiential) Learning
- Other European or International qualifications that the University considers to be of equivalence to the above.

# 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

The UWE 2020 Strategy states:

"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".

Biomedical 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.

# 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

#### Part 8: Reference Points and Benchmarks

previous sections.

# **QAA** subject benchmarks

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

The Basic Knowledge sub-headings within the Biomedicine benchmark 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. This provides students with an integrated knowledge of the human body at a physiological, cellular, molecular and genetic level, in both health and disease. At level 1 modules provide a foundation of generic biomedical content including scientific and analytical skills, biology of disease, biochemistry, microbiology, and genetics. At level 2, building on core subjects, there is the introduction of choice around research themes, so that students can develop research interests aligned to their career aspirations.

As well as achieving the benchmarking goals 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..." The level of choice extends in the final year, with more advanced modules aligned to the research themes, alongside the core IBMS specialisms (Cellular Pathology, Clinical Biochemistry, Immunology, Haematology & Transfusion and Medical Microbiology).

The Bioscience benchmark statements also map to our programme and are "a family of methods and disciplines grouped around the investigation of life processes"; "practical and experimental subjects". Our programme includes basic organism structure and diversity, as well as social and environmental aspects of science, with a toxicology theme, and final year module on science and community / communication. 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", "describe and analyse patterns of inheritance and complex genetic interactions"; all these areas map to compulsory modules within the programme.

## University teaching and learning policies!

In line with the University's teaching and learning policies, this programme takes a student-centred 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).

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## Research themes underpinning the programme

Academic staff involved in the Biomedical Science programme are from a diversity of backgrounds including industry, healthcare and research. Around the core IBMS biomedical subject specialisms research themes that reflect staff strengths. At level 2 and 3 the modules strongly underpinned by the research expertise of the team. 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 RAE2008 in UoA12 – Allied Health Professions and Studies. According to the RAE, UWE has proportionately more internationally excellent research than any other University in the UK. Furthermore, the Times Higher Education RAE ratings placed our Biomedical Science research within the top 10% of University submissions. This highlights the world class research being undertaken in CRIB.

## 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 who 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 collaborator and outreach

The integrated nature of the programme necessitates ongoing and close liaison with employers of Biomedical Scientists within the National Health Service and industry. 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.
- UWE has representation on the local IBMS Branch Committee and several of the associated discussion groups. These and many other opportunities for sharing ideas and views exist and are actively used to the advantage of all parties.
- Practitioners are actively involved in the design, delivery and continued development of the Biomedical – and Healthcare Science (Life Sciences) programmes. Similarly, service users are consulted on a regular basis to ensure that the programmes deliver training that matches service needs.
- The Joint Training Officer's Committee monitors and advises on the operation of the IBMS accredited training places in accordance with agreed standards and policies. In addition, this committee provides a valuable forum for practitioners' views on the undergraduate provision, and for discussion pertaining to development of the degree programme.
- Academic staff supervising sandwich (year-long) placements and shorter term local hospital placements facilitate the development of collaborations, and achieve valuable

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professional "voice" that advises all of our programmes.

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.