

Programme Specification

Programme title: MSc Medical Bioscience

Academic Year:	2018-2019
Degree Awarding Body:	University of Bradford
Partner(s), delivery organisation or support provider (if appropriate):	
Final and interim award(s):	Master of Science Postgraduate Diploma [Framework for Higher Education Qualifications level 7]
Programme accredited by:	
Programme duration:	1 year, full time
QAA Subject benchmark statement(s):	
Date of Senate Approval:	
Date last confirmed and/or minor modification approved by Faculty Board	November 2017

Introduction

Medical Bioscience involves studying the scientific basis of human disease, including aspects of diagnosis and therapeutic intervention. There is a high demand, in healthcare settings, academia and industry for graduates with advanced training in theoretical and practical skills required in research, education, regulatory approval, diagnostic services and the commercialization of biomedical information. On this programme teaching is strongly research-led and the majority of academic staff who teach on the programme are active researchers who publish in their own specialist subject areas. The programme will provide opportunities for students to experience modern biomedical techniques to develop key skills that are required by scientists to investigate the pathophysiology of human disease and there is considerable student choice in which biomedical science disciplines are studied during the programme. Through these choices it will allow students to map a path through the programme that allows them either to cover a greater number of biomedical subject areas or to develop greater specialism within either cancer biology, medical biochemistry, medical microbiology or medical cell biology. A substantial research project will be undertaken in a contemporary area of the student's chosen biomedical discipline.

In addition the programme will develop students' skills in areas such as scientific communication, critical review and analytical thinking, complex problem solving,

reflective practice and laboratory/sample management. Thus, the programme will develop research and analytical skills, management skills and personal transferable skills whilst enhancing autonomous learning.

It is important to note that completion of this programme does not automatically qualify graduates to become registered biomedical scientists, since in the UK this is now a legally protected title for individuals who are registered with the Health and Care Professions Council (HCPC). HCPC registration requires completion of an approved academic programme **plus** a period of training in an approved laboratory to develop appropriate practical skills and ensure competence. However, it is anticipated that the programme will be acceptable in partial fulfilment for award of the title of Chartered Scientist.

The aims and outcome statements have been referenced to the University's Learning and Teaching Strategy, to the QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2008) and to the QAA's Master's Degree Characteristics (2010) document.

Programme Aims

The programme is intended to:

- A1 Enhance learning by providing a choice of study options to suit students' interests and/or career aspirations;
- A2 Enable students to develop a systematic understanding and critical awareness of current issues within appropriate branches of biomedical science;
- A3 Develop competence in the design and execution of research and the interpretation of scientific data;
- A4 Enable students to appreciate the advantages, limitations and applications of a range of biomedical techniques;
- A5 Provide learning opportunities to enable critical thinking to develop autonomous and lifelong learning;
- A6 Develop and enhance students' ability in a range of personal and key transferable skills;
- A7 Enhance skills associated with the communication of scientific data;
- A8 Provide knowledge of sample processing and laboratory management within the context of biomedical science;
- A9 Deliver a flexible programme of postgraduate study in biomedical science to students from diverse cultural and educational backgrounds.

Programme Learning Outcomes

To be eligible for the award of Postgraduate Diploma at FHEQ level 7, students will be able to:

- LO1: Demonstrate a systematic understanding and critical awareness of current techniques and issues in appropriate branches of biomedical science
- LO2: Critically evaluate and communicate scientific data
- LO3: Critically evaluate and appraise experimental techniques
- LO4: Write, interpret and peer review scientific material
- LO5: Write a scientific grant proposal
- LO6: Prepare and present a scientific poster based upon research data
- LO7: Select and use appropriate statistical methods for analysing research data
- LO8: Demonstrate understanding of a range of issues relating to sample and laboratory management
- LO9: Effectively use reflective practice to modify their personal and professional activities

Additionally, to be eligible for the award of Degree of Master at FHEQ level 7, students will be able to:

- LO10: Demonstrate self-direction and originality in implementing a research project.

Curriculum

Postgraduate Diploma

Module Code	Module Title	Type	Credits	Level	Study period
ARC7001-A	Maths and Quantitative Methods	C	10	7	1
BIS7009-C	Personal & Professional Development in Biomedical Science	C	30	7	1 + 2
BIS7008-B	Applied & Diagnostic Pathology	C	20	7	1
BIS7006-B	Research & Analytical Methods	C	20	7	1 + 2
BIS7015-B	Critical Appraisal of a Current Topic in Biomedical Science	C	20	7	2
BIS7007-B	Experimental Design	C	20	7	2

Students will be eligible to exit with the award of Postgraduate Diploma if they have successfully completed at least 120 credits and achieved the award learning outcomes 1-9 listed above.

Masters

Module Code	Module Title	Type	Credits	Level	Study period
ARC7001-A	Maths and Quantitative Methods	C	10	7	1
BIS7009-C	Personal & Professional Development in Biomedical Science	C	30	7	1 + 2
BIS7008-B	Applied & Diagnostic Pathology	C	20	7	1
BIS7006-B	Research & Analytical Methods	C	20	7	1 + 2
BIS7015-B	Critical Appraisal of a Current Topic in Biomedical Science	C	20	7	2
BIS7007-B	Experimental Design	C	20	7	2
BIS7005-E	Research Project	C	60	7	3

Students will be eligible for the award of Degree of Master if they have successfully completed at least 180 credits and achieved the award learning outcomes 1-10 listed above.

The MSc in Medical Bioscience programme consists of 120 taught Credits (60 credits in each of semesters 1 & 2) and a substantial 60 credit research project (semester 3). It is possible to exit with a Postgraduate Diploma on successful completion of the taught credits only.

The teaching, learning and assessment strategy employed takes into consideration the learning outcomes for the programme, the nature of topic studied and the need for students to demonstrate significant autonomy in their learning. Directed study, involving directed reading of appropriate texts and the preparation of assessed work, is used to address the majority of learning outcomes. At level 7 students are expected to demonstrate well developed skills of analysis, synthesis and criticism and to demonstrate self-direction and originality in dealing with complex problems. These aspects will be assessed by a variety of strategies, including written and oral examinations, report writing, case studies, group work, essays, a critical appraisal dissertation, oral presentations, a poster presentation (LO6), viva voce and the project report.

Formal lectures will facilitate acquisition of students' knowledge and understanding (LO 1) and will be augmented by students' self-directed evaluation of related scientific literature and experimental approaches (LO 2 & 3). Students will be expected to critically evaluate scientific data (LO2-7) and to design appropriate experimental approaches to test specific scientific hypotheses (LO3 & 10). The research project module provides a major opportunity to demonstrate competence in the execution of experimental work and autonomy in data handling and critical interpretation in a research context (L10). Students' ability to deal with complex issues and to solve problems will be enhanced by effective reflective practice (LO9). Key skills are embedded in a number of modules but are consolidated and assessed in the Personal and Professional Development module. More detailed descriptions of the ways in which learning is related to assessment, in the modules that make up this programme, can be found in the relevant module descriptors. Students will also gain familiarity with a range of issues relating to patient sampling handling and

laboratory management (LO8) and these aspects will be assessed both formatively and summatively through case-studies and team-based learning.

The curriculum may change, subject to the University's programme approval, monitoring and review procedures.

Learning and Teaching Strategy

The programme articulates with the University's Learning and Teaching Strategy. A wide variety of teaching methods, appropriate to the learning outcomes of the individual modules, are employed throughout the programme, and are supported by formative assessment. The teaching methods progressively focus on student-centred approaches to learning, thus students will be expected to take increasing responsibility for their own learning as they progress through the programme. In this way students are expected to develop the attributes needed for life-long learning and continued professional development.

Assessment Strategy

The assessment strategy is designed to allow students to demonstrate achievement of the learning outcomes of individual modules and of the programme, appropriate to a postgraduate level of study. At level 7, students will have the opportunity to demonstrate skills of analysis, synthesis and evaluation through a wide variety of assessment strategies, including written and oral examinations, report writing, essays, poster presentations and the extensive project report. The project report provides a major opportunity to demonstrate autonomy in data handling and critical interpretation in a research context.

Assessment Regulations

This Programme conforms to the standard University Regulations which are available at the following link:

<http://www.bradford.ac.uk/aqpo/ordinances-and-regulations/>

Admission Requirements

The University welcomes applications from all potential students and most important in the decision to offer a place is our assessment of a candidate's potential to benefit from their studies and of their ability to succeed on this particular programme. Consideration of applications will be based on a combination of formal academic qualifications and other relevant experience.

The standard entry requirements for the programme are as follows:

Normally, applicants would be expected to have gained an Honours degree in an appropriate biological sciences discipline at 2:2 or above. Students from outside of the UK/EU will be required to meet the current visa and entry requirements for study in the UK. Students whose first language is not English must satisfy the University that they meet the International English Language Testing Service (IELTS) overall band of 6.0 with a minimum of 5.5 in all elements. Students who wish to graduate with an accredited degree must either enter with an IELTS score of 6.5 or demonstrate that they have achieved this level on completion of the programme.

The University of Bradford has always welcomed applications from disabled students, and these will be considered on the same academic grounds as are

applied to all applicants. Those with a disability may wish to contact the programme leader before they apply.

Applications are welcome from students with non-standard qualifications or mature students (those over 21 years of age on entry) with significant relevant experience.

Recognition of Prior Learning

If applicants have prior certificated learning or professional experience which may be equivalent to parts of this programme, the University has procedures to evaluate and recognise this learning in order to provide applicants with exemptions from specified modules or parts of the programme.

Minor Modification Schedule

Version Number	Brief description of Modification	Date of Approval (Faculty Board)
1		