Programme Specification

Section 1: Basic Data

Awarding institution/body	University of the West of England, Bristol
Teaching institution	University of the West of England, Bristol
Faculty responsible for programme	Faculty of Health and Applied Sciences
Programme accredited by	
Modular Scheme title	Professional Doctorate
Highest award title	Doctor of Biomedical Sciences (DBMS)
Default award title	
Interim award title	PGCert Research Methods Biomedical Science PGDip Biomedical Science Practice
UCAS code (or other coding system if relevant)	
Relevant QAA subject benchmarking group(s)	
On-going/valid until* (*delete as appropriate/insert end date)	On-going
Valid from (insert date if appropriate)	Version 1 October 2004 Version 2 January 2011 Version 2.1 Sept 2014

Version 2 Authorised by Quality and Standards Committee Date: April 2011
Version 2.1 Authorised by CAP Date Nov 2014

Version Code: 2.1

Section 2: Educational aims of the programme

The Doctor of Biomedical Sciences (DBMS) is a strategic initiative of the Faculty of Health and Life Sciences intended to provide highly experienced practitioners employed within Biomedical Science with an opportunity to deepen their knowledge and skills to meet the higher professional practice demands of the NHS through its *Agenda for Change* and *Healthcare Scientists Plan*.

The DBMS is designed to provide a high-level set of learning opportunities combining structure, a community of practice and independent research in a practitioner context.

Its educational aims are to provide:

- opportunities for senior practitioners and managers from a range of biomedical science-related backgrounds to develop and realise their potential in a supportive and responsive environment
- an understanding of a substantial body of knowledge which is at the forefront of professional practice
- an understanding of the strategic issues and external drivers which inform biomedical science practice
- heighten self-awareness with regard to professional practice and personal behaviour in leading and managing teams of biomedical-related personnel, as a basis for improving personal effectiveness in role
- knowledge and skills needed to conduct, at an advanced level, a research project into significant biomedical science issues and present the findings in a coherent cogent form to satisfy peer review and the needs of publication
- knowledge and skills needed to be able to critically reflect on the findings of a research project and evaluate its strengths and weaknesses including validation procedures
- support to challenge and critically review findings in biomedical science
- skills in applying tools, techniques and in-depth analytical skills for exploring biomedical science issues, and contributing to the extension of new knowledge and understanding
- added value for learners in specific knowledge and transferable skills
- the ability to translate complex biomedical science research outcomes to inform practice development
- a coherent and flexible programme of part-time study at postgraduate level
- a programme responsive to feedback from students, external examiners and other stakeholders as part of quality management and enhancement
- appropriate facilities and resources to deliver a quality teaching and learning experience within a research-led environment.

Section 3: Learning outcomes of the programme

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

A Knowledge and understanding

Learning outcomes	Teaching, Learning and Assessment Strategies
A Knowledge and understanding of: 1. demonstrate an advanced knowledge base of research methodology with a range of transferable skills. 2. demonstrate a deep understanding of the contribution of research and scholarship to biomedical professional practice. 3. demonstrate a competence to critically review current research in relation to research project and to inform practice. 4. undertake research which will be disseminated to the wider scientific community. 5. demonstrate an understanding of the external drivers which impact on, and inform, biomedical science practice. 6. demonstrate an understanding of the value of continual professional development.	**Teaching/learning methods and strategies:** Acquisition of 1&3 is through attendance at specialist workshops within the *Research Theory & Practice* and *Professional Development for Biomedical Sciences* modules. *Project Development towards a Doctorate* and *Interim Report* modules will also support these learning outcomes. In addition to self-directed learning. Additional support is provided through specifically designed distance e-learning material supported by Blackboard. Acquisition of 2 and 3 is through the *Research Theory and Practice, Professional Development for Biomedical Sciences*, *Project Development towards a Doctorate*, *Interim Report* and *Research Project* modules. Acquisition of 4 will occur through dissemination of their research studies to a learned community – a requirement of the *Professional Development for Biomedical Sciences* module. In addition to attendance of scientific conferences. The *Interim Report* and *Research Project* will also support the acquisition of 4. Acquisition of 5 will be supported through the *Professional Development for Biomedical Sciences* module. Acquisition of 6 is through attendance at research seminars within their hospital and/or Faculty Research Centre seminars in addition to the *Project Development towards a Doctorate*, *Professional Development for Biomedical Sciences* and the *Research Project* modules. Throughout, the learner will undertake independent reading both to supplement and consolidate their learning and to broaden their knowledge and understanding of the subject ***Assessment:*** Testing of the knowledge base is through completion of a range of differing assessments including reflective Portfolio's, a log incorporating evidence of attendance at specific Workshops and seminars plus assessed project proposal, progression report, project report and oral viva examination.

B Intellectual Skills

B Intellectual Skills	**Teaching/learning methods and strategies**
1. develop their conceptual, cognitive and analytical skills appropriate to Doctorate level. 2. use appropriate information technology to seek and analyse information. 3. demonstrate independent and self-directed learning.	Intellectual skills are developed through undertaking the *Research Theory & Practice*, *Professional Development for Biomedical Sciences*, *Project Development towards a Doctorate*, *Interim Report* modules and the *Research Project* modules. **Assessment** A variety of assessment methods are employed. All test a learner's ability to demonstrate skills (1-3) through reflective portfolio, oral presentations, project proposal, progression report and final thesis.

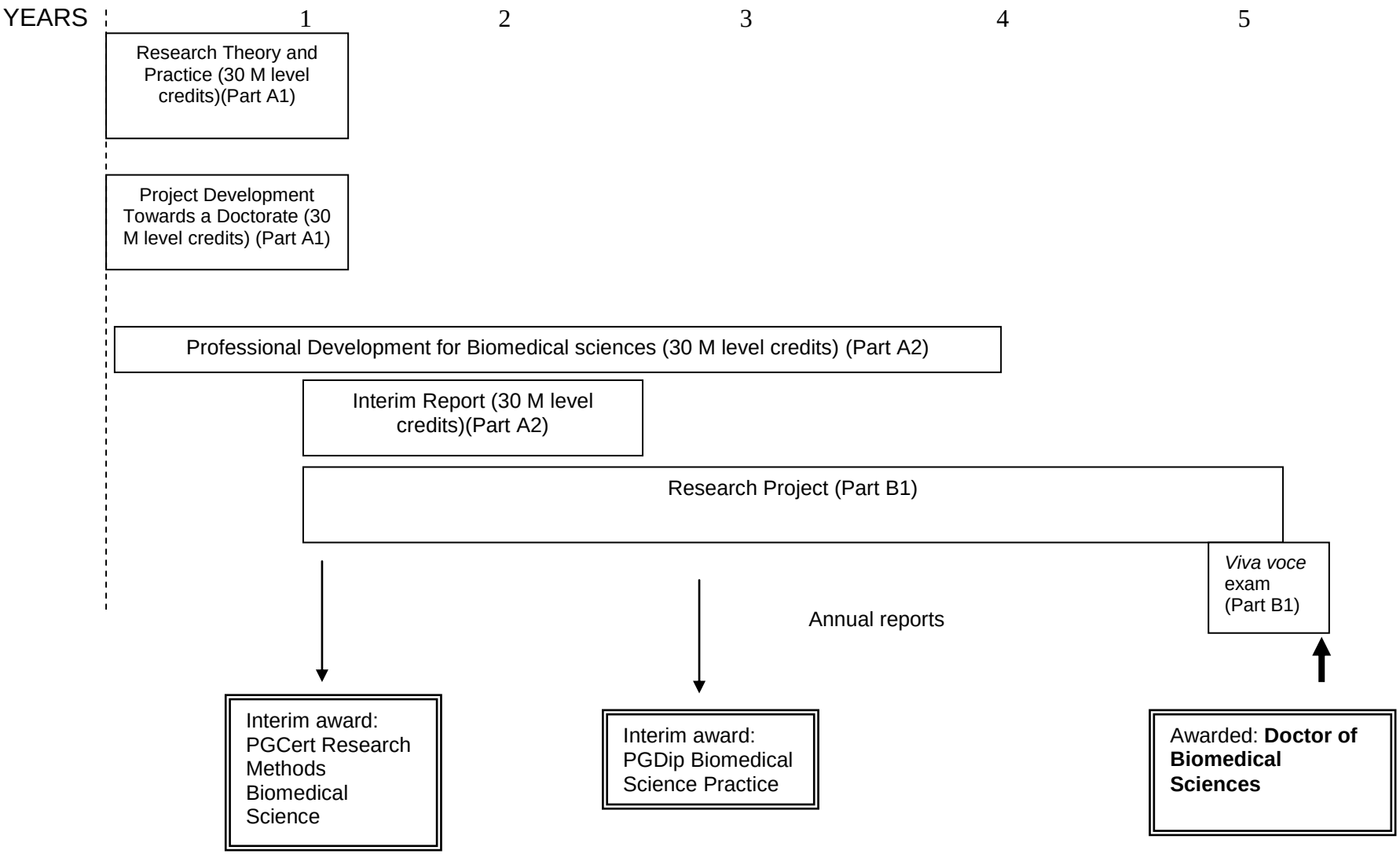
C Subject, Professional and Practical Skills

C Subject/Professional/Practical Skills - *able to: …*	**Teaching/learning methods and strategies**
1. develop as doctorate level independent researchers and practitioners. 2. demonstrate an advanced understanding of the research process through execution of a research project. 3. develop their specific interests by specialising within the programme in relation to their subject or career aspirations. 4. critically evaluate information from a range of sources. 5. apply practical approaches to the study of selected aspects of biomedical science and demonstrate an awareness of ethics, research governance, safety and good laboratory practice. 6. demonstrate an awareness and understanding of the strategic issues which affect the profession.	Acquisition of 1-5 through the *Research Project* in addition to specific Workshops. Outcome 6 would be acquired through the *Research Theory and Practice* and *Professional Development for Biomedical Sciences* module. **Assessment** Skills 1, 2, 3, 4 & 5 are primarily assessed through the Project proposal, Interim Report and Project report. Vivas for the latter aspects will also assess the acquired skills. Skill 6 would be assessed through a reflective portfolio.

D Transferable Skills and other attributes

D Transferable skills and other attributes - able to: …	**Teaching/learning methods and strategies**
1. communicate and present complex arguments in a logical, articulate and intellectual manner using a variety of methods. 2. critically analyse data arising from various means of inquiry. 3. awareness of the impact of strategic issues eg. Research Governance, Intellectual Property and Quality Assurance on biomedical science in research and practice. 4. manage time and plan work to deadlines. 5. demonstrate capacity to think critically and creatively.	Skills 1-5 will be developed throughout the Doctorate within the *Professional Development for Biomedical Sciences*, *Research Theory and Practice*, *Project Development towards a Doctorate*, *Interim Report* modules and *Research Project*. **Assessment** All skills will be assessed through a reflective portfolio, interim and final thesis together with the viva examinations.

Section 4: Programme structure



PART A : directed, credit-based study

PART A1:

Compulsory modules

- USSJGX-30-M Research Theory & Practice (30 credits at M level)
- USSJFR-30-M Project Development towards a Doctorate (30 credits at M level)

PART A2:

Compulsory modules

- USSJFS-30-M Interim Report (30 credits at M level)
- USSJGY-30-M Professional Development for Biomedical Sciences (30 credits at M level)

Interim Awards:

PGCert Research Methods in Biomedical Science. On completion of 60 level M credits from the modules within Part A1 of the Programme.

PGDip Biomedical Science Practice. On completion of 120 level M credits from the modules within Part A1 and A2 of the Programme.

PART B: Doctor of Biomedical Sciences

Prerequisite requirements:

Successful completion of 60 level M credits from the modules in Part A1.

PART B1:

- Research Project - Thesis (35,000 words total) and *viva voce* examination.

Final Award:

Doctor of Biomedical Sciences

Successful completion of 120 level M credits (Part A1 + A2) plus completion of Research Project (thesis -35,000 word total).

Section 5: Entry requirements

A good first degree or equivalent plus:
Either;
a) MSc in Biomedical Science or related subject
b) IBMS Fellowship examination
c) Other relevant experience and demonstrated abilities deemed equivalent by the Programme team to either a) or b)

AND
The candidate must be actively engaged as a practitioner at a senior level in their chosen field.

Interviews will be held by the Award team for all applicants to discuss Programme aims and practicalities related to successful completion.

Section 6: Assessment Regulations

- PART A of the programme is wholly in accordance with UWE Academic Regulations and Procedures
- PART B of the programme is regulated by the 'Academic Regulations and Procedures'.

Section 7: Student learning: distinctive features and support

The DBMS is a professional doctorate, which recognises the 'researching professional'. It supports learning at a doctoral level with emphasis on original thought, empirical research and mastery of a substantial leading-edge body of knowledge.

The structure of the DBMS programme incorporates two aspects; part A and part B. Part A consists of credit-based modules at M level which emphasise the acquisition of competency in research methodology and specific knowledge content. In part A1 the modules support the process of project development and research methodology. The module, *Research Theory & Practice*, will incorporate seminars which underpin the research methodology and knowledge-base needed to successfully generate and undertake a research proposal and project. It will also cover material focused in the area of bioethics and the correct handling of human participants and materials in clinical research. In addition, the module, *Project Development towards a Doctorate*, will incorporate one-to-one tutorials, formation of a supervisory team and support towards the production of a research proposal which meets Research Governance guidelines. The Faculty has a strong liaison with many NHS Trusts concerning Research Governance and DBMS students will follow the procedures embedded within the Faculty to ensure appropriate ethical approval is gained for all aspects of the research project. Another aspect of the *Project Development towards a Doctorate* module is the formation of a supervisory team who will support the doctoral student on an individual basis through the research project. In some instances it is envisaged that an appropriate workplace supervisor will be available to become part of the supervisory team. However, in cases where this is not possible, the Faculty has sufficient research and supervisory experience in biomedical science to support a student to successful completion. Incorporated with the *Project Development towards a Doctorate* module is the generation of a reflective essay, which will highlight the dilemmas faced by the doctorate students as they embark on the DBMS and, through self and peer reflection, emphasise how key aspects of the programme will support a successful outcome. Students successfully completing part A1, and not wishing to proceed, have the opportunity to be awarded a PGCert Research Methods Biomedical Science

Professional Development in Biomedical Sciences runs complementary to the Programme incorporating workshops on research methodology and related aspects, which underpin all stages of the project. A portfolio will be built up encompassing an attendance log, workshop material and evidence of dissemination, which will be completed towards the end of the programme providing evidence of reflective practice. The workshops will be concentrated towards the earlier years of the programme being replaced by supervisory contact and dissemination in the latter years. To facilitate a doctoral level culture, regular attendance at research seminars, within UWE or local universities and/or associated with their hospital workplace will be expected, together with participation in Faculty Graduate School research seminar fora. The *Professional Development in Biomedical Sciences* module will be completed within 48 months, leaving the final months to focus on thesis completion.

Upon successful completion of *Project Development towards a Doctorate*, the module, *Interim Report*, will be enrolled upon and will form the framework to writing up a report which will assess progress and future direction. The utilisation of credit-based modules in the early stages provides a clear, structured path of learning leading to submission of the Interim Report. The Interim Report will be examined by a

oral defence and presentation of a research poster with an expectation of an advanced level defence of the research and clear future direction. Students who do not wish to go on with the *Research Project* will be able, at this stage, to focus on completing *Professional Development in Biomedical Sciences* and will be able to be awarded the interim award of PGDip Biomedical Science Practice. Due to the cyclical nature of *Professional Development in Biomedical Sciences* it is possible for the student wishing to be awarded a PGDip to complete the module requirements at an earlier time point than planned.

The modules in Part A1 and A2 act as a bridge into the doctoral level research project and as a benchmark of how progress is being achieved.

Part B encompasses the doctoral level *Research Project* – thesis and viva voce examination. This part is complemented and supported by the *Research Theory & Practice* and *Professional Development for Biomedical Sciences* modules. Part B is concluded with a thesis of 35,000 total word length and an oral examination, following the same format as the traditional PhD route. It is envisaged that the thesis could comprise 2-3 coherent research studies or one large study, as appropriate to the research project(s) undertaken. During the Project, progression will be monitored through annual reports, which will be completed by the student and supervisory team. In instances where change or loss of employment occurs the supervisory team, together with the Programme leader, will undertake a support review on an individual basis to provide the best path forward. The Faculty has strong experience in PT doctoral projects and the impact work/life changes have on successful completion.

In order to achieve the higher learning required for a doctorate level qualification the DBMS programme has been designed with a number of complementary supporting features;

- The beginning of the programme incorporates workshops specifically targeted at increasing the cohort identity to provide a peer support network, which will have a benefit to the cohort operating external to the University. All the 'students' will be working senior professionals and therefore workload balance and time management will be reflected upon in order to identify goals for completing the programme successfully.
- The *Project Development towards a Doctorate* module will provide one-to-one support on generating a research proposal therefore enabling the DBMS learners to gain clarity and definition of their proposed research studies at M level.
- Each student will be encouraged to create a personal development strategy linked to the DBMS learning needs; work based performance enhancement and wider career development. This will provide the setting of a personal learning contract.
- The Faculty has a highly recognised research culture and the approved Faculty Graduate School will consolidate this aspect. The Doctorate learners will be integrated into this culture from the beginning of the programme. This community of practice will value DBMS 'students' learning from other research students and from experienced researchers. Routine research seminars from leading international research groups will provide an opportunity to test personal insights against the experience of others.
- The Graduate School encompasses a large number of research active staff who will act as mentors and supervisors of the doctorate students' projects. Selection of the supervisory team will take account of the project subject area and may draw upon expertise from other Faculties and Education as second supervisors.
- As part of the *Professional Development in Biomedical Sciences* module DBMS learners will be required to disseminate e.g. poster, their research findings in an appropriate national/international forum. The abstract of this dissemination activity will provide evidence for the portfolio. The environment of peer review will contribute towards the doctorate level learning.

These structures and support systems have been designed to ensure that the student experience is one of engagement in a supportive community and also recognise the workload pressure on working professionals. Overall providing a clear path through a rigorous and demanding programme towards successful completion of the DBMS.

Section 8 Reference points/benchmarks

In designing the DBMS, account has been taken of the following;

- QAA Framework for Higher Education Qualifications in England, Wales and Northern Ireland (Jan 2001)
- QAA Code of Practice for the Assurance of Academic Quality and Standards in Higher Education: Postgraduate Research Programmes (Jan 1999)
- UWE Professional Doctorate Framework
- Feedback from stakeholders via BMS Advisory Group and RPSG.
- Feedback from Faculty Research Degrees Committee (RDC).

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 she/he 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. These are available on the University Intranet.

Programme monitoring and review may lead to changes to approved programmes. There may be a time lag between approval of such changes/modifications and their incorporation into an authorised programme specification. Enquiries about any recent changes to the programme made since this specification was authorised should be made to the relevant Faculty Academic Registrar.