

Biomedical Science

This version of the programme is no longer recruiting. Please refer to the updated specification for the programme of the same name at <http://www.uel.ac.uk/postgraduate/specs/bioscience-profdoc/>.

Final award	DBMS - Professional Doctorate
Intermediate awards available	PGDip and PGCert
UCAS code	
Details of professional body accreditation	Approval from Institute of Biomedical Science (IBMS) to be sought
Relevant QAA Benchmark statements	N/A
Date specification last up-dated	August 2012

Profile

The summary - programme advertising leaflet

Programme content

Professional doctorates are not new qualifications. They have been awarded since medieval times in professions such as law, medicine and theology, but until recently had been overshadowed by the pure research based PhD. With the increased interest in developing doctoral programmes which are linked to professional development, interest in professional doctorates has returned. The School of Health and Bioscience currently runs several well recognised and established, IBMS (Institute of Biomedical Science) accredited degree programmes in biomedical science. These BSc (hons) and MSc programmes attract large numbers of students each year. The professional doctorate is a natural extension to these programmes and offers an alternate pathway to a doctorate qualification. It consists of two parts, an initial taught component followed by a work-based research project.

Professional Doctorate in Biomedical Sciences at UEL

The programme is flexible and offers working professionals the opportunity use research carried out at their place of work to improve their professional practice. Core modules are intended to help students plan and execute their own research project. The core modules can be completed mainly at their place of work through case studies and other distance based activities and assignments. It is intended that the activities within the programme would also be of benefit to the practitioner's workplace.

Admission requirements

For entry to this programme, students are required to have at least a second class undergraduate honours degree in Biomedical Science from a UK university. Students **MUST** be currently employed in biomedical sciences. Students can, at the programme tutor's

discretion, be admitted with lower classifications if they have suitable professional qualifications or appropriate experience related to the proposed programme of study.

For overseas students in addition to an appropriate degree, there is a requirement for an IELTS score of 6.5 or higher (or equivalent).

An interview will normally be required for admission onto the programme.

Applicants whose qualifications do not conform to the above criteria may still be admitted to the programme at the admission tutors discretion. This will also normally involve an interview. Applicants may be considered for accreditation of prior experiential learning (AEL) on the basis of relevant experience, following established University procedures. Applicants with prior-certified learning, (at postgraduate level) that closely matches the specified learning outcomes of modules in the taught part of the programme may be able to claim exemption via agreed university procedures. No exemption can be claimed against the core or research part of the programme or in situations where a professional body excludes it.

At least two members of academic staff will review each application before a decision is made.

Programme structure

Students will follow a full-time (33 - 48 months) or a part-time programme (45 - 60 months). In the first year, full-time students would be expected to complete all core modules and three selected additional modules. The two core modules can be undertaken mainly at work but some attendance at the University will be required especially at the beginning of these modules. The taught optional modules are by attendance only. Part time students may opt to study up to a maximum of four modules per year.

The taught element of the programme represents less than half of the total programme measured by student effort.

Learning environment

Student learning is encouraged through participation in a wide variety of activities which can be carried out at your workplace. However students will also be encouraged to attend specialist lectures, seminars, workshops and external visits and to make full use of web-based learning. Each module consists of reading material and a series of self-check and interactive tasks in which students discuss the issues raised in each module in the light of their own teaching context and educational background. In addition to online discussions, which involve the module tutor on a weekly basis, students also have access to their module tutor directly via our virtual learning environment, UEL plus.

Assessment

The optional taught modules are assessed through course work and examination. The core skills and planning modules are assessed through coursework culminating in the production of a research proposal. The major project is assessed through thesis and oral examination.

Relevance to work/profession

The professional doctorate is aimed at practising professionals who wish to acquire the highest level of professional and academic achievement. Students have to be employed in Biomedical Science to take part in the programme as it is expected that the project will be carried out at the workplace.

The professional doctorate is a recognized step on the career path towards advanced practitioner grades in the NHS (see figure below, adapted from the IBMS website). The figure indicates where diplomas in expert and extended practice sit in the framework of the Institute of Biomedical Science's professional qualifications and also shows how these qualifications link to University academic qualifications. The career path from basic grade Biomedical Scientist (with a certificate of competence), to Advanced Specialist is paralleled by increasingly higher academic qualifications. A professional doctorate will assist the individual to gain access to these higher grades.

Thesis/Dissertation/project work

The research project will be work based appropriate to the student's biomedical science speciality. The length of the interim reports and final dissertation are given below.

- A project proposal (3000-6000 words) prepared during the Research preparation and planning module. This is presented to the Academic Board Research Degrees Review Sub-Committee (ABRC)
- A 40,000 word thesis that will be assessed by an oral examination. External and internal examiners with appropriate high level expertise in the subject will perform the assessment.

Registration of your research component can only take place following approval by the ABRC of your suitability to undertake research, of the programme of research, of the supervision arrangements and of the research environment. These approvals require appropriate academic judgement to be brought to bear on the viability of each research proposal.

Candidates for a Professional Doctorate must, prior to the submission of the research derived assessment, successfully complete all assessed elements from the taught part of the programme.

Once you have started the research stage of the programme, progression will be formally reviewed annually by a Panel comprised of staff with appropriate academic and professional expertise who are independent of the candidate's supervisory team. The School's Research Degrees Sub-Committee and the Research Degrees Review Sub-Committee monitor the reports from these Panels.

The examination of the research component of the Professional Doctorate has two stages: firstly the submission and preliminary assessment of the research; and secondly its defence by oral examination.

Added value

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Your future career

Biomedical scientists are found working in the NHS, in government and private laboratories and in industry. The research and specialist training you receive in the DBMS programme will help you in progress in your elected career.

How we support you

Students will be supported by a supervisory team including a Director of Studies and one or two additional supervisors. It is intended that one of the supervisory team will be a practising specialist based at the workplace.

The Graduate School is responsible for providing a focus to the support of our postgraduate research students and for our institution's research and scholarly strategy.

Bonus factors

Students will be encouraged to present their research work at meetings such as the biannual IBMS meeting or any other national or international meeting considered appropriate. This will enhance the standing of the student and of their workplace

Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

This programme is designed to give you the opportunity to:

- To gain an understanding of the nature of research processes and to develop the practical and transferable skills necessary for career progression in Biomedical Sciences and related areas.
- To use opportunities to develop a range of personal and professional skills necessary for the preparation, planning, organisation and management of research projects.
- To provide opportunities for the development of co-operative networks.
- To critically evaluate the concepts, techniques and applications of Biomedical Sciences and to develop responsibility for independent learning

What will you learn?

Knowledge

- To obtain an in-depth knowledge of Biomedical Science in the specialism you select
- A critical awareness of current research in Biomedical Science and specifically their area of expertise in the profession

Thinking skills

- You will learn to formulate hypotheses with the minimum of assistance
- You will learn to comprehend, analyse, interpret and criticise published information in Biomedical Science.

Subject-Based Practical skills

- You will learn to analyse data from their own and other people's experiments and to interpret them in the light of published work.
- You will learn to conceptualise, design and implement projects related to advanced practice in biomedical science.

Skills for life and work (general skills)

- You will develop your own style of independent learning and assume personal responsibility for projects of an advanced nature.
- You will learn to communicate scientific ideas and experiments to others and to debate relevant ethical issues.

A candidate who is awarded a Professional Doctorate will be expected to have achieved the following learning outcomes:

To have created and interpreted new knowledge, through original research, or other advanced scholarship, of a quality to satisfy peer review, that extends the forefront of the discipline and merits publication;

To have systematically acquired an understanding of a substantial body of knowledge at the fore-front of an academic discipline or area of professional practice;

To have the general ability to conceptualise, design and implement a project for the generation of new knowledge, application or understanding at the forefront of the discipline and to adjust the project design in the light of unforeseen problems;

To have detailed understanding of applicable techniques for research and advanced academic enquiry;

To have the ability to make informed judgements on complex issues in specialist fields, often in the absence of complete data, and be able to communicate their ideas and conclusions clearly and effectively to specialist and non-specialist audiences:

To have the ability to continue to undertake pure and/or applied research and development at an advanced level, contributing substantially to the development of new techniques, ideas or approaches;

To gain the qualities and transferable skills necessary for employment. These require the exercise of personal responsibility and largely autonomous initiative in complex and unpredictable situations, in professional or equivalent environments.

Structure

The programme structure

Introduction

Normally programmes are credit-rated to help you to understand the amount and level of study that is needed.

One credit is equal to 10 hours of directed study time (this includes everything you do e.g. lecture, seminar and private study).

Credits are assigned to one of 4 levels:

- 1 - equivalent in standard to the first year of a full-time undergraduate degree programme
- 2 - equivalent in standard to the second year of a full-time undergraduate degree programme
- 3 - equivalent in standard to the third year of a full-time undergraduate degree programme
- M - equivalent in standard to a Masters degree

Credit rating

The Professional Doctorate programme however is not credit rated although each taught module is worth 30 credits at M level.

Typical duration

It is possible to move from full-time to part-time study and vice-versa to accommodate any external factors such as financial constraints or domestic commitments. Many of our students make use of this flexibility and this may impact on the overall duration of their study period.

The normal minimum and maximum periods of registration for a Professional Doctorate are as follows:

	Minimum	Maximum
Full-time	33 months	60 months
Part-time	45 months	72 months

How the teaching year is divided

Applications will be considered at any time throughout the year however the taught element of the programme is delivered within the UEL semesterised calendar that offers start points in early September or early February.

What you will study when

Students must complete the two core taught modules and **three** optional modules in part 1 before proceeding to the research project. The taught modules carry M level credits.

The modules which make up this programme are listed below

Part	Module title	Semester	Status
1	Understanding the research processes	A or B	Core

1	Research preparation and planning	A or B	Core
1	Select three additional modules from the following list:		Options
	<ul style="list-style-type: none"> • Biology of Disease 1 • Biomedical Immunology • Medical Microbiology (pathogenesis) • Bioinformatics • Molecular Biology and Disease • Toxicology • Biology of Disease 2 • Commercial Biotechnology • Applied Biomedical Immunology • Medical Microbiology (control) • Applied Toxicology 	<ul style="list-style-type: none"> A A A A A A A B B B B B 	
2	Project/Thesis		Core

Requirements for gaining an award

- In order to gain a Postgraduate Certificate, you will need to obtain 60 credits at Level M.
- In order to gain a Postgraduate Diploma, you will need to obtain 120 credits at Level M
- Students can elect to curtail their studies and leave with an MSc in Biosciences which can be obtained through the completion of the core module Understanding the Research Processes and 3 of the optional taught modules plus an additional 60 credit research project module.
- In order to gain a Professional Doctorate, students must successfully complete the taught elements of the programme, gaining 150 credits at M level, together with the research component of the program.

Masters Award Classification

Where a student is eligible for an Masters award then the award classification is determined by calculating the arithmetic mean of all marks and applying the mark obtained as a percentage, with all decimal points rounded up to the nearest whole number, to the following classification

- 70% - 100% Distinction
- 60% - 69% Merit
- 50% - 59% Pass
- 0% - 49% Not Passed

Assessment

Teaching, learning and assessment

Teaching and learning

Knowledge is developed through

- Discussions and meetings including external scientific meetings
- Reading and evaluating scientific papers and literature

Thinking skills are developed through

- Reflective activities with feedback either at University or the workplace
- Discussions and meetings including external scientific meetings

Practical skills are developed through

- Research skills-based activities with feedback
- Advanced IBMS practitioner exercises that may be completed at the workplace

Skills for life and work (general skills) are developed through

- The demands of the study medium (preparation of doctoral project, thesis and publications)
- Planning activities with feedback
- Project work completed at the workplace

Assessment

Assessment will primarily consist of

- Module examinations and coursework
- A research proposal (3000-6000 words) taken from the skills modules
- A 40000 word thesis that will be assessed by a viva voce examination.

Knowledge is assessed by

- Examinations and coursework (in the taught core programme modules emphasis will be given to work-based coursework)
- Interim reports and Final oral examination

Thinking skills are assessed by

- Examinations and coursework (in the taught core programme modules emphasis will be given to work-based coursework)
- Final oral examination
- Tutorials with University and work-based supervisors

Practical skills are assessed by

- Laboratory practical / coursework (in the taught core programme modules emphasis will be given to work-based coursework)
- Reports from work based supervisors

Skills for life and work (general skills) are assessed by

- Laboratory practical/ coursework (in the taught core programme modules emphasis will be given to work-based coursework)
- Coursework reports
- Reports from work based supervisors

Quality

How we assure the quality of this programme

Before this programme started

Before this programme started we checked that:

- there would be enough qualified staff to deliver the programme;
- adequate resources would be in place;
- the overall aims and objectives were appropriate;
- the content of the programme met national benchmark requirements;
- the programme met any professional/statutory body requirements;
- the proposal met other internal quality criteria covering a range of issues such as admissions policy, teaching, learning and assessment strategy and student support mechanisms.

This is done through a process of programme approval which involves convening a panel of academic experts including some subject specialists from other institutions. Each panel member scrutinises key documents and talks to the staff who will deliver the programme before deciding whether it should be approved.

How we monitor the quality of this programme

The quality of this programme is monitored each year through evaluating:

- external examiner reports (considering quality and standards);
- statistical information (considering issues such as the pass rate);
- student feedback.

Drawing on this and other information, programme teams undertake the annual Review and Enhancement Process which is co-ordinated at School level and includes student participation. The process is monitored by our Quality and Standards Committee.

Once every six years we undertake an in-depth review of the whole field. This is undertaken by a panel that includes at least two external subject specialists. The panel considers documents, looks at student work, speaks to current and former students and speaks to staff before drawing its conclusions. The result is a report highlighting good practice and identifying areas where action is needed.

The role of the programme committee

This programme has a programme committee comprising all relevant teaching staff, student representatives and others who make a contribution towards the effective operation of the programme (e.g. library/technical staff). The committee has responsibilities for the quality of the programme. It provides input into the operation of the Review and Enhancement Process and proposes changes to improve quality. The programme committee plays a critical role in the University's quality assurance procedures.

The role of external examiners

The standard of this programme is monitored by at least one external examiner. External examiners have two primary responsibilities:

- To ensure the standard of the programme;
- To ensure that justice is done to individual students.

External examiners fulfil these responsibilities in a variety of ways including:

- Approving exam papers/assignments;
- Attending assessment boards;
- Viva voce exams
- Reviewing samples of student work and moderating marks;
- Ensuring that regulations are followed;
- Providing feedback to the University through an annual report that enables us to make improvements for the future.

Listening to the views of students

There will be regular documented meetings with the university supervisor/s and at the workplace meetings with the work-based supervisor. In addition the programme committee will oversee and respond to any questions raised.

Listening to the views of others

We have regular discussions with senior Biomedical Scientists in the NHS and with representatives of the Strategic Health Authority to discuss our programmes

Further Information

Alternative locations for studying this programme

Location	Which elements?	Taught by UEL staff	Taught by local staff	Method of Delivery
-	-	-	-	-

Where you can find further information

Further information about this programme is available from:

- [The UEL web site](#)

- The student handbook
- Module study guides
- [UEL General Regulations](#)
- [UEL Quality Manual](#)
- [School web pages](#)