Biotechnology and Management

Final award	MSc
Intermediate awards available	PgDip, PgCert
UCAS code	
Details of professional body accreditation	N/A
Relevant QAA Benchmark statements	
Date specification last up-dated	July 2014

Profile

The summary - programme advertising leaflet

Programme content

This modular programme aims to produce postgraduate students with a sound knowledge of Biotechnology and the fundamental aspects of management. The programme covers the practical, theoretical aspects and the necessary skills to undertake individual and collaborative research in this field. This programme has been designed for students wishing to make a career in the Biotechnology, Pharmaceutical industry, medical and academic or any field where a knowledge of bioinformatics is desirable.

MSc Biotechnology and Management at UEL

The programme offer a mix of traditional Biotechnology and Management modules with an introduction to the cutting edge of research at the molecular level . The focus of the programme is not simply on the state of current knowledge but also the methodology used in obtaining that knowledge, making use of recent research papers to inform class discussion. In addition to taught modules in the field you will also be trained in research processes, culminating in an individual research project which will give you the opportunity to demonstrate your individual skills and abilities.

Admission requirements

For entry to this programme, students are required to have qualifications equivalent to a honours degree from a UK university in a relevant subject or experience. For overseas students there is a requirement for an IELTS score of 6.5 or higher (or equivalent), TOEFL score of 650 or an equivalent. Applicants whose qualifications do not conform to these criteria may be admitted to the programme at the admission tutors discretion which will normally involve an interview.

At UEL we are committed to working together to build a learning community founded on equality of opportunity - a learning community which celebrates the rich diversity of our student and staff populations. Discriminatory behaviour has no place in our community and will not be tolerated. Within a spirit of respecting difference, our equality and diversity policies promise fair treatment and

equality of opportunity for all. In pursuing this aim, we want people applying for a place at UEL to feel valued and know that the process and experience will be transparent and fair and no one will be refused access on the grounds of any protected characteristic stated in the Equality Act 2010.

Programme structure

- One year full time or two years part time for MSc and PG Diploma.
- One year part time for PG Certificate.
- Part time students take one optional module in semester A and one in semester B. In year two they take one optional module in semester A and the research skill module in semester B. The project is carried out in year 2.
- Taught modules are delivered in a semesterised system, with semesters running from September to January and February to June. The research projects will run through the summer period

Learning environment

- Learning is encouraged through participation in a wide variety of activities including lectures, seminars, workshops, laboratory-based practicals, web-based learning etc.
- In addition all students are expected to read extensively in their own time. Much of this reading will be directed.
- Success at university depends on developing your ability to study independently using library resources, Computer-assisted learning (CAL), handouts and web-based study activities.
- These skills are reinforced in modules in the first semester. These enable us to assess your independent learning needs at university, and also help to develop those transferable skills so important in working life. The skills with which you start the programme may vary considerably between individuals, so your personal tutor will direct your skills development work on an individual basis.

Assessment

- Students are assessed in practical work and theory.
- In taught modules 40% of the module mark is derived from coursework during the semester (this can take a variety of forms including laboratory work, data analysis, essays, oral presentations etc.) and the remaining 60% from written theory examinations at the end of the semester.
- The Research Skills module is assessed by coursework involving a variety of forms of presentation.
- The Research Project is assessed mainly by the final written report, with contributions from a poster presentation and portfolio.
- The pass mark for all modules is 50%

Relevance to work/profession

- The curriculum is tailored to current demand in a area of Biotechnology and fundamentals of management.
- Emphasis is placed on the development of skills as well as academic knowledge.
- Part-time students in relevant employment may be permitted to carry out research projects at their place of work.

Thesis/Dissertation/project work

- Project work is an essential component of a Masters degree programme and one that most students enjoy. Small projects and group work exercises feature throughout the programme.
- The individual research project is the culmination of the programme makes up 33% of the programme.
- Project work encourages students to show initiative in their individual work under supervision, using appropriate analytical techniques to generate and interpret new data.
- Dissertation preparation develops literature researching, presentation and written communication skills essential in professional life.

Added value

Your future career

Most graduates would be expected to pursue research careers in the Biotechnology and Pharmaceutical Industry, in the National Health Service or Health Protection Agency, environmental monitoring, in academic research in Universities, research institutes etc. Many students go on to laboratory based careers but there are also careers in areas such as scientific sales and management, clinical data management etc. This degree can also be utilised by those students who have less specific career aspirations but enjoy the challenge of scientific study at this advanced level.

How we support you

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Bonus factors

- A small and friendly campus.
- A School with staff and facilities to match to the wide interests and backgrounds of students.
- Good connections with NHS, Pharmaceutical industry, and other employers.
- Sports facilities at the Atherton Centre, which is just a few minutes walk away.
- Multiplex cinema, theatre, supermarkets, high street shops, restaurants, cafes and pubs a few minutes walk away in Stratford - a major site of new development in East London.
- Central London only 20 minutes away by underground, and extensive transport links with all parts of London.

Outcomes

Programme aims and learning outcomes

What is this programme designed to achieve?

This programme is designed to give you the opportunity:

- Demonstrate an in-depth knowledge of specialised areas of biotechnology and have an appreciation of the current range of theoretical and research understanding of management those areas.
- Create, design and explore a research question in a specialised area of biotechnology and evaluate this research with appropriate justification or create, design and explore a work-based learning project to evaluate an issue in practice.
- Disseminate to peers in a critical format, underlying evidence in specific areas of practice
- Have a systematic awareness of knowledge and a critical awareness of current problems and new insights, much of which is at, or informed by, the forefront of molecular biology, biotechnology and management.
- Have a comprehensive understanding of the latest research techniques used in molecular biology, bioinformatics and biotechnology.
- Communicate effectively with a wide range of audiences using a variety of methods including written, poster, oral and web-based presentations
- Design and develop a high quality dissertation and present it in a suitable form.
- Provide evidence of ability to set realistic aims in research work and manage time and resources effectively.

What will you learn?

Knowledge

- A sound foundation and knowledge of both the practical and theoretical aspects of biotechnology and management.
- Detailed knowledge of biotechnokogy and management.
- The principles of statistical assessment of clinical and research data.

Thinking skills

- The ability to use integrated approaches to analyse and interpret complex and contradictory scientific information autonomously and to accurately assess and criticise your own and others' work.
- An awareness and understanding of the ethical constraints associated with the subject area and the ability to relate these to your own experience.
- The ability to contribute to the development of the subject through applied study or research.
- The ability to solve problems in science.

Subject-Based Practical skills

- The ability to select and apply a range of practical skills relevant to bioinformatics.
- A higher level of competence in laboratory skills.
- An ability to isolate, assess and resolve problems independently and to react effectively to unusual and unexpected situations.
- An improved ability to engage in professional and academic communication with others in your specialist field.
- The ability to select and utilise appropriate computer software, and to understand its limitations in presenting scientific data.

Skills for life and work (general skills)

- Increased ability to take responsibility for your own learning and the ability to work with and motivate others
- Ability to reflect critically on your own and others' performance resulting in the improvement of subsequent actions.
- Increased confidence in your own abilities.
- Improved skills in written and verbal communication of complex information.

Structure

The programme structure

Introduction

All 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 5 levels:

- 0 - equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree programme
- 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

A total of 60 or 120 credits at level M are needed for the award of a Postgraduate Certificate or Diploma respectively. A total of 180 credits at level M are needed for the award of an M.Sc.

Typical duration

The typical duration of this programme is one year full-time or two years part-time. 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.

How the teaching year is divided

The teaching year is divided into two semesters of roughly equal length. Teaching and assessment of taught modules is completed within each semester. The research project is completed in the summer period, between June and September. For part-time students, attendance is required on one full-day per week, for full-time students attendance is normally three days but this may be increased during the research project.

What you will study when

The order in which modules are taken will vary for different groups of students. This is possible because the modules are all free standing, except that the research skills module should be taken before the start of the project.

Part-time MSc students study one optional module in semester A and a second optional module in Semester B of the first year. These are followed by the third optional module in semester A of year 2 and the research skills module in Semester B. We anticipate that most students taking the part time programme will be in related employment and will be able to devise projects which can be carried out at their place of work. Alternative arrangements will be made individually for students unable to do this, and the project would be taken in the summer period, normally of the second year.

Full time students complete the whole programme in a single calendar year. The project would be taken in the summer period. Students starting in semester B will take one optional module and the Research Skills module in semester B, followed by the project in the summer period. Two further optional modules would be taken in semester A of the following academic year.

Full-time Postgraduate Diploma students will take two optional modules semester A followed by one optional module and Research Skills in semester B. Students following this programme by part time study would normally take two optional modules in the first year of study, though this is not essential. Students can start this programme in full time or part time mode in either semester.

Postgraduate Certificate students take the programme by part time day release, taking only two modules. These two modules can be taken in either order so students can start this programme in September or in February.

The modules which make up the programmes are listed below

Programme	Semester	Module title	Credit	Status
M/D/C	A	Molecular Biology and Disease - BS7013	30	Core
M/D	B	Commercial Biotechnology - BS7014	30	Core
M	A/B	Research Skills - BS7002	30	Core
M/D/C	A	Planning Change - BS7030	30	Core
M/D	B	Implementing Change - BS7031	30	Core
M	Summer	Research Project	30	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 which can be obtained through the completion of a 60 credit research project in addition to the taught modules

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 decimals 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

- Lectures
- Seminars, tutorials and workshops
- Student centred learning - directed reading, assignment preparation.

Thinking skills are developed through

- Tutorials
- Seminars and workshops
- Report writing and assignments
- Project work

Practical skills are developed through

- Laboratory practical sessions
- Individual research project
- Data analysis exercises
- Use of IT and library based resources
- Student presentations

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

- Student centred learning
- Seminar and workshop discussions
- Oral and written presentations
- Computer assignments
- Managing time
- Team work

Assessment

Assessment will primarily consist of

- Module examinations and coursework
- A research proposal (2000 words)taken from the skills modules
- A 35-4000 word thesis (max 5000) that will be assessed by a viva voce.

Knowledge will be assessed by

- Examinations and coursework (in the taught core course 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 course 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 course 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 course 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 the programme started, the following was checked:

- 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 Employers in the NHS, biotechnology and pharmaceutical industry.

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 Manual of Regulations and Policies
- UEL Quality Manual
- Regulations for the Academic Framework http://www.uel.ac.uk/academicframework/
- School web pages