

BSc (Hons)

The single honours route is no longer recruiting. Please refer to the programme specification of the same name for the combined honours route.

Final award	BSc (Hons)
Intermediate awards available	Cert HE, Dip HE, BSc
UCAS code	B220
Details of professional body accreditation	N/A
Relevant QAA Benchmark statements	Biosciences
Date specification last up-dated	July 2012

Profile

The summary - UCAS programme profile

BANNER BOX:

This programme offers excellent employment prospects particularly for students taking the sandwich option.

ENTRY REQUIREMENTS

- 240 UCAS tariff points or equivalent

We also accept Access to Science, Advanced GNVQ in Science at merit grade, and BTEC National Diploma in Science with a minimum of 6 modules at merit grade or higher. All students should also have a minimum of grade C at GCSE, or equivalent, in English language, mathematics and double science.

Applicants with overseas or alternative qualifications are considered on an individual basis. For mature students, credit may be given for relevant work experience. Direct entry to the second year of the programme is available for students with Higher National Certificate or Diploma in an appropriate area, or for those who have successfully completed study equivalent to level one at another University.

If you want to study Toxicology but have not achieved the right entry qualifications, why not start with our extended degree programme in Toxicology, which feeds in at Level 1?

ABOUT THE PROGRAMME

What is Toxicology?

Toxicology is the study of Poisons. Poisons (toxicants, toxins, xenobiotics) are substances that when taken into the body cause injury or death. In the toxicology programme you will study amongst other things the nature of these poisons, how they are detected, what damage

they do and why. You will examine the options available for dealing with these substances and will examine the research methods which have led to our current knowledge.

Toxicology at UEL

- The aim of the programme at UEL is to introduce the students to all aspects of toxicology, in particular: Toxicity testing, Mechanistic toxicology, Environmental Toxicology and Regulatory Toxicology.
- This programme offers extensive laboratory training through all years and opportunities for work placement
- The programme also shares a common first year with other Bioscience degrees at UEL, providing an opportunity to transfer between programmes at the end of the first year

Programme structure

- Most students follow a 3-year full-time pathway, however a 4-year sandwich degree and part-time routes are also available. Toxicology is also available as part of a combined honours programme.
- Level 1 is essentially a foundation year, designed to cement and extend areas of study, which should already be at least partly familiar to students. In two Skills modules students will develop the study skills and IT skills required in any modern degree programme together with the more specialist background knowledge in areas such as Physiology, Microbiology, Cell biology and statistics, which are required by a Toxicologist. At Level 2, students study Introduction to Toxicology and the Environment and a combination of Biochemistry (Molecular Biology, Biochemical Techniques) and Physiology (Physiology Function and Dysfunction, Physiological Regulation).
- The third year of study can be spent away from the University in an agreed work placement.
- The final year (Level 3) combines specialist Toxicology modules with either Pathology, Forensic analysis or immunology.
- Final year students also do an individual research project, involving independent original work.

Learning environment

Learning is encouraged through participation in a wide variety of activities including lectures, seminars, workshops, laboratory-based practicals, external visits, distance learning, web-based learning etc. Each module has 5 to 6 hours contact per week, and may need up to 10 hours further individual study per week on each module. Success at university depends on developing your ability to study independently using library resources, computer assisted learning (CAL), handouts and web-based study activities. The first year has a Skills module each semester. These help you make the major shift to independent learning needed at university, compared to schools and FE colleges, and also help to develop those transferable skills so important in working life. Students opting for sandwich placement have opportunities for on the job training and also work based learning.

Assessment

Students are assessed in practical work and theory. In most modules 50% 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 50% from unseen written theory examination at the end of the semester.

- Level 1 (Year 1) modules introduce you to the standards and types of assessment used at university. Some have theory exams staged at intervals through the semester. Although they do not contribute to your final Honours grade, you are expected to achieve at least 40% in all Level 1 modules.
- Your final Honours grade uses marks from Level 2 and Level 3 modules only. Your Level 1 modules prepare you to do your best in these later years.
- If a module is not passed at the first opportunity, marks from later opportunities are not capped.

Work experience/placement opportunities

- The 4-year Sandwich programme offers a year working in a laboratory and may be in a toxicology lab, hospital, research institution or in a medical, industrial or food company. Placements are available nation-wide and sometimes abroad.
- Successful completion of the sandwich year will appear on your degree transcript and is acknowledged in your degree title. You also have the opportunity to take a work-based learning module which can contribute to your final degree classification.
- A placement officer is responsible for organising placements so there is no onus on the student to find a suitable job.
- During the sandwich year you will be assigned a visiting tutor to ensure that all is running smoothly and to look after your interests.
- During the sandwich year you have the opportunity to gain an extra 20 credits at level two by studying a work-based learning module.
- Work experience enables you to build links with employers and greatly enhances your employment prospects.

Project work

- Project work is an essential component of an Honours degree programme and one that most students enjoy. Small projects and group work exercises feature throughout the programme.
- Up to one third of your final year is spent on an individual research project. If a double project module is chosen this will contribute over 20% to your total Honours mark.
- Project work encourages students to show initiative in their individual work under supervision in a laboratory, using appropriate analytical techniques to generate and interpret new data.
- Library based research projects may also be undertaken.

Added value

- Extensive personal support throughout the programme.
- Sound practical as well as academic training.
- The sandwich year working in a laboratory will add value to your job prospects at the end of the programme.

- Effective careers advice and support available

IS THIS THE PROGRAMME FOR ME?

If you are interested in...

- How the human body works and how its function can be altered by chemical agents.
- Developing your knowledge and understanding of why certain compounds cause harm to living systems.
- The impact of toxins accumulating in the environment.
- Studying methods used to assess toxicity.
- Understanding how techniques such as Proteomics, Genomics and Metabolomics are used to better understand the toxication process.
- Improving your scientific skills of logical argument and analysis.

If you enjoy...

- Reading or hearing about research and/ or medicine (do you already enjoy TV documentaries like Horizon or Equinox, radio science programmes, New Scientist articles?).
- The challenge of discovering new drugs.
- TV programmes on forensic investigations.
- The challenge of understanding how pollutants affect humans and the environment.
- Doing scientific procedures and experiments in laboratories and IT labs with precision.
- Working in groups, using standard and new techniques to solve problems.
- Being able to study quietly and individually away from formal staff-led sessions.

If you want...

- The option of a year's work experience in a laboratory away from the University.
- To be able to spend up to one third of your final year on your own individual research project at the university (usually developing laboratory skills, but IT, survey or library projects also negotiable).
- The chance of reviewing your degree programme at the end of the first year.

Your future career

The programme will enable you to pursue careers in the Pharmaceutical Industry, Academic Research, Forensic Science, environmental monitoring and control, the food industry and a range of government agencies. It can also be utilised by those students who have less specific career aspirations but who wish to study a rigorous scientific programme. One rapidly growing field of work is in the insurance industry providing the technical support in claims assessment.

How we support you

The School of Health and Bioscience provides immediate contact with University support systems.

- In your first year, you are allocated a Personal Tutor (a member of staff familiar with your degree). You will see your Tutor at regular intervals to discuss progress and life in general.
- Module leaders and Degree pathway leaders also give support on academic matters, and advice about other specialist help available through the University.
- The School also has a Help Desk to provide administrative assistance and advise how to get the right help.
- Internet homepages are used by many staff to support their teaching and your learning.
- Lecture and practical files, quizzes, mark summaries and much more is now available for several modules via [UEL UELPlus Online Programme links](#).

Throughout the programme you will find a number of scheduled support activities devoted to specific aspects e.g. how to write your project report, or more general aspects such as careers.

Support for students on a University level includes:

- [Libraries and Learning Resource Centres](#)
- [Childcare for students with children aged 21/2 years to 5 years.](#)
- [Careers advice and information](#)
- [Counselling and Advice for practical problems](#)
- [Health Centre with a nurse regularly on duty.](#)
- Language tuition
- [Dyslexia support](#)
- [Accommodation](#)

Bonus factors

- A School with staff and facilities to match to the wide interests and backgrounds of students. Good connections with the Pharmaceutical Industry.
- Sports facilities at 'Fitness on the Green' and 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 there are [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 to:

This programme is designed:

- To provide students with an understanding of the mechanisms by which chemicals cause damage to living systems.
- To enable students to perform and interpret a range of toxicity tests,
- To provide students with an insight into the work of toxicologists in the pharmaceutical industry, forensic science, environmental monitoring and academic research.
- To provide students with the necessary transferable skills, practical and research training to succeed in the current employment market.

What will you learn?

Knowledge

- The programme aims to provide a background to a large number of the scientific techniques used in Toxicology and Biochemistry.
- Students will acquire an understanding of the laboratory procedures and techniques used in Toxicology, which will allow the rapid acquisition of more specialist skills later in their career.
- An awareness of the wider implications of scientific research on society as a whole.

Thinking skills

- The ability to comprehend, analyse and criticise published information in Toxicology.
- The ability to formulate hypotheses with the minimum of assistance.
- The ability to use integrated approaches to problem solving.

Subject-Based Practical skills

- The ability to analyse data from your own and other people's experiments and to interpret them in the light of published work.
- The ability to select and apply a range of practical skills relevant to Toxicology.
- The ability to design and carry out experimental work.
- The ability to effectively communicate your work to Scientists and the general public.
- The ability to select and utilise appropriate computer software.

Skills for life and work (general skills)

- The development of your own style of independent learning.
- The ability to communicate ideas and experiments to others and to debate relevant scientific and /or ethical issues.
- IT skills.
- Communication skills.
- Team work.
- Time management.

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

The overall credit-rating of this programme is 360 credits.

Typical duration

The duration of this programme is three years full-time (four years sandwich) or five 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 begins in September (or February) and ends in June (or January). A typical full-time student will study the equivalent of 120 credits over the year. A typical part-time student will study for one day and one evening per week and will complete 60-80 credits

What you will study when

This programme is part of a modular degree scheme. A typical full-time student will take six 20 credit modules per year. An honours degree student will complete six modules at level one, six at level 2 and six at level 3.

It is possible to bring together modules from one subject with modules from another to produce a combined programme. Subjects are offered in a variety of combinations:

- Single - 120 credits at levels one, two and three
- Major - 80 credits at levels one, two and three
- Joint - 60 credits at levels one, two and three

- Minor - 40 credits at levels one, two and three

Modules are defined as:

- Core - Must be taken
- Option - Select from a range of identified modules within the field
- University wide option - Select from a wide range of modules across the University

The following are the core and optional requirements for the single and major pathways for this programme

LEVEL	TITLE	CREDITS	STATUS	STATUS
			SINGLE	MAJOR
1	Skills for Biosciences	20	Core	Core
1	Cellular Biology	20	Core	Option
1	Human Physiology	20	Core	Option
1	Human Health and Disease	20	Core	Option
1	Cellular Processes	20	Core	Option
1	Microbiology	20	Core	-
2	Molecular Biology	20	Core	Option
2	Practical and Employability Skills	20	Core	Core
2	Introduction to Toxicology	20	Core	Core
2	Physiology Function and Dysfunction	20	Core	Option
2	Physiological Regulation	20	Core	Option
2	Metabolism	20	Core	Option
2	Work Based Learning	20	Option	-
P	Sandwich Placement	0	Option	-
3	Biochemical and Cellular Toxicology	20	Core	Core
3	Applied Toxicology	20	Core	Core
3	Immunology	20	Option	-
3	Pathology , Haematology and Transfusion Science	20	Option	Option
3	Forensic Pathology and Serology	20	Option	Option
3	Forensic Analysis	20	Option	Option
3	Individual Research Project (single or double module)	20/40	Core	Core

Requirements for gaining an award

In order to gain an honours degree you will need to obtain 360 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 120 credits at level three or higher

In order to gain an ordinary degree you will need to obtain a minimum of 300 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher
- A minimum of 60 credits at level three or higher

In order to gain a Diploma of Higher Education you will need to obtain at least 240 credits including a minimum of 120 credits at level one or higher and 120 credits at level two or higher

In order to gain a Certificate of Higher Education you will need to obtain 120 credits at level one or higher.

In order to gain a Foundation Degree you will need to obtain a minimum of 240 credits including:

- A minimum of 120 credits at level one or higher
- A minimum of 120 credits at level two or higher

(A foundation degree is linked to a named Honours degree onto which a student may progress after successful completion of the Foundation degree.)

Degree Classification

Where a student is eligible for an Honours degree, and has gained a minimum of 240 UEL credits at level 2 or level 3 on the programme, including a minimum of 120 UEL credits at level 3, the award classification is determined by calculating:

The arithmetic mean of the best 100 credits at level 3 $\times 2/3$ + The arithmetic mean of the next best 100 credits at levels 2 and/or 3 $\times 1/3$

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% First Class Honours
60% - 69% Second Class Honours, First Division
50% - 59% Second Class Honours, Second Division
40% - 49% Third Class Honours
0% - 39% Not passed

Assessment

Teaching, learning and assessment

Teaching and learning

Knowledge is developed through

- Lectures
- Tutorials
- Workshops
- Practicals
- Reading
- Internet, UELPlus and CAL

Thinking skills are developed through

- Computer aided learning
- Presentations
- Preparing for tutorials and seminars/workshops
- Completing coursework assignments (including data analysis essays, presentations etc)
- Independent reading

Practical skills are developed through

- Laboratory Practical and/or fieldwork
- Computer simulations and use of IT

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

- Managing time
- Presenting ideas and arguments in a structured manner - written and oral communication
- Problem solving
- Team work

Assessment

A wide variety of assessment methods are used including

- Written examinations
- Practical reports
- Essays
- Data analysis
- Poster presentations
- Oral presentations
- Portfolios
- Final year research project and dissertation
- MCQ tests
- Database searches
- Library exercises

Knowledge and Thinking Skills are assessed by

- Evidence of reading and comprehension of the topics covered in the module being assessed. This will be particularly apparent in essay work and examinations.

- Ability to describe, explain and discuss various aspects of the programme material in the context of class tutorials, group work, presentations and other pieces of assessed coursework for the module.
- In the final year particularly, thinking skills will be assessed by the ability to take information presented in any module out of its original context and to utilise this information in the construction of arguments, comparisons, hypotheses etc as required to address the specific assessments in each module.

Practical skills are assessed by

- The ability to carry out laboratory practical work effectively, within the timeframe allocated.
- The ability to interpret and report on work carried out in the laboratory.
- The ability to complete assignments using appropriate resources.
- Evidence of logical planning and management of time in the preparation of materials for assessment.

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

- The ability to work to strict deadlines
- The ability to select and utilise appropriate problem solving skills
- Demonstration of effective oral and written communication skills
- Evidence of interpersonal skills such as teamwork and /or team leadership
- Evidence of general numeracy skills

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 teach 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 consulting academic experts including some subject specialists from other institutions.

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 the University's Quality Standing Committee.

Once every six years an in-depth review of the whole field 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/technician 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.

Listening to the views of students

The following methods for gaining student feedback are used on this programme:

- Module evaluations
- Student representation on programme committees (meeting each semester)
- Personal tutor, module leader, pathway leader, field co-ordinator

Students are notified of the action taken through:

- Circulating the minutes of the field committee and the annual quality improvement report
- Verbal feedback to specific groups
- Providing details on the appropriate noticeboard

Listening to the views of others

The following methods are used for gaining the views of other interested parties:

- Feedback from former students
- Industrial liaison committee
- Liaison with sandwich placement employers

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 <http://www.uel.ac.uk/hab/>
- UEL Manual of Regulations and Policies <http://www.uel.ac.uk/qa>
- UEL Quality Manual <http://www.uel.ac.uk/qa/>
- Regulations for the Academic Framework <http://www.uel.ac.uk/academicframework/>
- School web pages <http://www.uel.ac.uk/hab/>
- [Current External examiners](#)
- External examiner reports (available from UEL virtual learning environment (UELPlus or Moodle))