

## **BSc (Hons) BIOCHEMISTRY AND BIOTECHNOLOGY COURSE SPECIFICATION**

Final Award	BSc (Hons) Biochemistry and Biotechnology
Intermediate Awards Available	Dip HE, Bioscience Cert HE, Bioscience
Teaching Institution(s)	UEL Campus
UEL Academic School	Health, Sport and Bioscience
UCAS Code	B800
Professional Body Accreditation	N/A
Relevant QAA Benchmark Statements	Biosciences/Biochemistry
Additional Versions of this Course	BSc (Hons) Biochemistry and Biotechnology with Placement Year
Date Specification Last Updated	March 2019

### **Course Aims and Learning Outcomes**

This course is designed to give you the opportunity to:

- Acquire a sound understanding of the theory and practice of Biochemistry and Biotechnology.
- Critically evaluate the concepts, techniques and applications of Biochemistry and Biotechnology
- Develop the practical and transferable skills necessary for a career in Biotechnology and Biochemistry and related areas.
- Develop responsibility for independent learning.

What you will learn:

#### **Knowledge**

- All students gain a broad overview of the biology field at level three. Thereafter you will acquire more detailed specialist knowledge in your chosen areas.
- The course aims to provide a background to a large number of the scientific techniques used in biological investigations.
- Students will acquire an understanding of the laboratory procedures and techniques used, 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 biology.
- 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 your chosen areas of biology.
- 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.
- The ability to carry out literature searches effectively to find information on a specific topic.

#### 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 and Communication skills.
- Team work.

### Learning and Teaching

#### Knowledge is developed through

- Lectures
- Tutorials
- Workshops
- Lab Practicals
- Reading
- Internet, Moodle 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 course 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

Students with disabilities and/or particular learning needs should discuss assessments with the Course Leader to ensure they are able to fully engage with all assessment within the course.

## Course Structure

All courses 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:

- 3 Equivalent in standard to GCE 'A' level and is intended to prepare students for year one of an undergraduate degree course.
- 4 Equivalent in standard to the first year of a full-time undergraduate degree course.
- 5 Equivalent in standard to the second year of a full-time undergraduate degree course.
- 6 Equivalent in standard to the third year of a full-time undergraduate degree course.
- 7 Equivalent in standard to a Masters degree.

Courses are made up of modules that are each credit weighted.

The module structure of this course:

<b>Level</b>	<b>Module Code</b>	<b>Module Title</b>	<b>Credit Weighting</b>	<b>Core/Option</b>	<b>Available by</b>
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					<b>Distance Learning?</b>
4	BS4100	Professional Practice in Science (Mental Wealth)	20	Core	N
4	BS4108	Fundamentals of Organic Chemistry	20	Core	N
4	BS4102	Cell Biology	20	Core	N
4	BS4105	Introduction to Biochemistry and Molecular Biology	20	Core	N
4	BS4103	Fundamentals of Analytical Chemistry	20	Core	N
4	BS4107	Fundamentals in Microbiology	20	Core	N
4	BS4099	Level 4 Short Work Placement	0	O	N
5	BS5102	Principles of Biotechnology	20	Core	N
5	BS5101	Molecular Biology and Genetics	20	Core	N
5	BS5100	Infection and Immunity	20	Core	N
5	BS5112	Cellular Biochemistry	20	Core	N
5	BS5115	Organic Mechanisms of Synthesis	20	Core	N
5	BS5110	Research and Career Development (Mental Wealth)	20	Core	N

5	BS5012	Level 5 Short Work Placement	0	O	N
5	BS5013	Year Long Placement (Sandwich Year)		Option	N
6	BS6100	Clinical Biochemistry	20	Core	N
6	BS6102	DNA Analysis and Bioinformatics	20	Core	N
6	BS6104	Protein Biochemistry and Proteomics	20	Core	N
6	BS6117	Applications of Biotechnology and Biochemistry	20	Core	N
6	BS6118	Biopharmaceuticals	20	Core	N
6	BS6113	Research Project and Career Enhancement Portfolio (Mental Wealth)	20	Core	N
6	BS6099	Level 6 Short Work Placement	0	O	N

*Please note: Optional modules might not run every year, the course team will decide on an annual basis which options will be running, based on student demand and academic factors, in order to create the best learning experience.*

Additional detail about the course module structure:

A core module for a course is a module which a student must have passed (i.e. been awarded credit) in order to achieve the relevant named award. An optional module for a course is a module selected from a range of modules available on the course.

The overall credit-rating of this course is 360 credits. If for some reason you are unable to achieve this credit you may be entitled to an intermediate award, the level of the award will depend on the amount of credit you have

accumulated. You can read the University Student Policies and Regulations on the UEL website.

## Course Specific Regulations

### 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 expected duration of this course is 3 years full-time or 5 years part-time.

A student cannot normally continue study on a course after 4 years of study in full time mode unless exceptional circumstances apply and extenuation has been granted. The limit for completion of a course in part time mode is 7 years from first enrolment.

### Further Information

More information about this course is available from:

- The UEL web site ([www.uel.ac.uk](http://www.uel.ac.uk))
- The course handbook
- Module study guides
- UEL Manual of General Regulations (available on the UEL website)
- UEL Quality Manual (available on the UEL website)
- School web pages

All UEL courses are subject to thorough course approval procedures before we allow them to commence. We also constantly monitor, review and enhance our courses by listening to student and employer views and the views of external examiners and advisors.

Additional costs:

None.