

Programme specification

1. Overview/ factual information

Programme/award title(s)	BSc (Hons) Biomedical Sciences (Biotechnical Science)
Teaching Institution	Leeds City College
Awarding Institution	The Open University (OU)
Date of latest OU validation	July 2016
Next revalidation	July 2021
Credit points for the award	120 for BSc (Hons)
UCAS Code	CF15
Programme start date	September 2016
Underpinning QAA subject benchmark(s)	Biomedical Sciences 2015, Chemistry 2014, Biosciences 2015
Other external and internal reference points used to inform programme outcomes	Good Laboratory Practice (Directive 2004/10/EC and Directive 2004/9/EC); COSHH, CLP and REACH safety and labelling guidelines for storage of chemicals. Institute of Biomedical Sciences http://nos.ukces.org.uk/Pages/results.aspx?u=http%3A%2F%2Fnos%2Eukces%2Eorg%2Euk&k=science#k=biomedical%20science
Professional/statutory recognition	None
Duration of the programme for each mode of study (P/T, FT,DL)	Full Time and Part Time
Dual accreditation (if applicable)	n/a
Date of production/revision of this specification	July 2016

2.1 Educational aims and objectives

The overall aims of the programme are to produce graduates who:

- Have a clear, in-depth and confident knowledge of biomedical science and recombinant technologies and their application in industry.
- Have an understanding of the range of opportunities to use microbes for the benefit of humans and the knowledge of how this has been achieved.
- Have the ability to work confidently and independently, are able to reflect and learn from their workplace experience in or study of a relevant industry and to relate this experience to theory, knowledge and good practice.
- Are “good employees” having both technical competencies and professional aptitudes with a clear understanding of the industry and workplace
- Have both detailed subject knowledge and analytical understanding including practical experience which relates to the bioscience industry

2.2 Relationship to other programmes and awards

(Where the award is part of a hierarchy of awards/programmes, this section describes the articulation between them, opportunities for progression upon completion of the programme, and arrangements for bridging modules or induction)

3. Programme outcomes

Intended learning outcomes are listed below.

3A. Knowledge and understanding	
Learning outcomes:	Learning and teaching strategy/ assessment methods
<p>A1 Plan, undertake and evaluate a negotiated self- managed major scientific project which uses biological knowledge.</p> <p>A2 Demonstrate detailed knowledge of biomedical science.</p> <p>A3 Creatively and critically appraise and evaluate an aspect of biomedical science</p>	<p><u>Key Learning and Teaching Strategy Methods</u></p> <p>The programme will place strong emphasis on providing a solid practical experience which will enhance and embed theoretical knowledge allowing learners to develop valuable skills in addition to confident understanding. These laboratory and lecture experiences will be supported by workshops and problem-based classes with provision of on-line guided learning and self-assessment. Subject-specific VLE areas hosted on the Moodle platform also offer extension and support materials which can be accessed at any time by students with an internet connection. Students will use reflective activities for learning and development of advanced practical skills, such as experimental design and planning some of which will be entered into through the dissertation module. Allowing learns to develop valuable skills for the workplace in addition to confident understanding.</p> <p>Group and individual presentations will be used to strengthen student learning and to provide a basis for industry-style assessment, developing employability skills. Lectures and seminars will includes specialize speakers with research experience and invited industry specialists.</p> <p><u>Key Assessment Strategy/Methods</u></p>

3A. Knowledge and understanding

Each module has both formative and summative assessment including early assessment to support transition. All modules have assessment which divides the meeting of learning outcomes so that achievement is balanced over two assessments.

All outcomes are assessed in a summative manner but supported with formative work in preparation such as practice questions or online quizzes. Assessment guidelines have been followed in terms of the amount and extent of assessment with detailed attention to the workload that each piece places on the student. A variety of assessment methods are used including viva, written and laboratory practical work to provide a good experience in preparation for employment. The team ensures this through good working relationships in addition to a commitment to prepare students for entry into the science industry. Feedback is delivered in a variety of ways including, written, online and verbal within appropriate time scales (immediate during laboratory work, moderated and within three weeks for summative work for example).

Design of assessment wherever possible offers an experience similar to a possible work based scenario in the industry.

3B. Cognitive skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
B1 Evaluate scientific material (information or data gathered from literature sources or measured in the laboratory) to inform independently- justified conclusions.	As above
B2 Apply knowledge to produce balanced and logical argument in a scientific context.	
B3 Use appropriate methods to identify solutions to complex scientific problems with reference to ethical guidelines where appropriate.	

3C. Practical and professional skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
C1 Operate ethically in response to scientific problems, data or information	As above
C2 Work independently to meet defined goals	

3D. Key/transferable skills	
Learning outcomes:	Learning and teaching strategy/ assessment methods
D1 Plan manage and use new knowledge acquired	As above
D2 Communicate clearly and fluently in a scientific style, presenting argument in a professional manner	

4. Programme Structure

Level 6			
Modules	Credits	Core/ Option	Compensatable
Dissertation	40	Core	No
Research methods	20	Core	Yes
Recombinant Technology	20	Core	Yes
Targets for and Development of Novel Pharmaceutical Agents	20	Core	Yes
Applied Biomedical Techniques	20	Option	Yes
Quality Control and Further Analytical Methods	20	Option	Yes

For the award of ordinary degree the following modules must be passed:

Course Level	Modules	Credits
6	Recombinant technology	20
6	Targets for and development of novel pharmaceutical agents	20
<i>One of the options modules</i>		
6	Applied Biomedical Techniques	20
6	Quality control & Further Analytical Methods	20

Full time route

Over two consecutive days per week.

The Dissertation module is run throughout the year, allowing students' time to develop and fully interrogate a scientific brief. This is supported by the first semester delivery of Research Methods which will support achievement and excellence in the dissertation module. The laboratory based Targets for and Development of Novel Pharmaceutical Agents provides a strong link with employability as well as developing knowledge of industry processes and detailed understanding of the experiential basis of drug discovery and the route to market. The understanding of modern molecular biology is delivered in Semester II in Recombinant Technology and then choosing either Applied Biomedical Techniques or Quality Control & Further Analytical Methods.

Biotechnical Sciences	
Semester One	Semester Two
Dissertation (40 credits)	
Research Methods (20 credits)	Recombinant Technology (20 credits)
Targets for and Development of Novel Pharmaceutical Agents(20 credits)	<i>Either:</i> Applied Biomedical Techniques(20 credits) <i>Or:</i> Quality Control & Further Analytical Methods(20 credits)

Part-time Route

The part-time programme is offered over one day per week for two years. It is seen as an opportunity for students for who full-time is too great a commitment but additionally targeting students on apprenticeship programmes or employees on day release schemes. Part-time would enter as in-fill with full-time groups running concurrently. A typical timetable for a student progressing through a part-time route is given below, although this may differ slightly depending on the needs of the student.

Biotechnical Sciences – Year one

Semester One	Semester Two
Targets for and Development of Novel Pharmaceutical Agents(20 credits)	Recombinant Technology (20 credits)
	<i>Either:</i> Applied Biomedical Techniques(20 credits) <i>Or:</i> Quality Control & Further Analytical Methods(20 credits)

Biotechnical Sciences – Year two

Semester One	Semester Two
Dissertation (40 credits)	
Research Methods (20 credits)	

5. Distinctive features of the programme structure

- **Where applicable, this section provides details on distinctive features such as:**
- **where in the structure above a professional/placement year fits in and how it may affect progression**
- **any restrictions regarding the availability of elective modules**

where in the programme structure students must make a choice of pathway/route

The programme places an emphasis on the balance between core scientific theory and skills along with a range of industry foci with a strong basis in laboratory practical skills and competencies.

Students are taught in small groups by a relatively small, dedicated team of lecturers on a compact college campus. Staff are approachable and accessible to all students.

Producing students that have the tools to succeed within employment with appropriate transferable skills specified by our industrial contacts. Again, this is highlighted by the outstanding range of opportunities to develop practical scientific experience valued by the sector.

Students have access to an excellent range of facilities including: well-equipped modern laboratories with excellent technical support. Students will have the opportunity to carry out a wide range of laboratory procedures.

Laboratories are well equipped with multi-media facilities to deliver quality outcomes to a meet the needs of a diverse range of students.

Research experience of staff on the team is both international and wide ranging where the majority of the team has worked at the cutting edge of knowledge in leading laboratories in both the UK and elsewhere.

We have strong links with regional employers who are invited in to enhance the student experience and to continue the exposure to professional rather than academic science environments.

The qualification offers an excellent opportunity to work across disciplines. This provides an innovative and contemporary way of creatively approaching the development of scientific skills and this is particularly well-evidenced within the Dissertation module.

The teaching team continues to expand recruiting further members of staff who have research and industry experience as well as academic qualifications

The Yorkshire and Humber region offers a wide and expanding range of potential employers in the STEM sector. Within the region the urban district of Leeds and Bradford offers a range of employers for students with strong science and employability skills – this includes both biosciences and healthcare industry with biotechnology a growing target throughout the region. We maintain connections within industry and are able to attract speakers of international repute to address our students.

6. Support for students and their learning

Tailored induction support begins before students arrive with the admissions team, and is reinforced at the detailed induction programme. A robust communications system functions to give students access to lecturers and management; this includes e-mail, the VLE and notice boards in studios. All necessary information about the programme is provided by means of the student handbook, module handbooks and the VLE. Each student is allocated a tutor for regular tutorials and personal development planning. This is implemented in the first term and continued throughout the year of study. There is an extensive range of learning resources in

the Library, supported by specialist staff. Use of Google hangouts is also foreseen to be supportive of student retention, achievement and experience on the course. The College provides an extensive range of services for students, including support for those with special needs.

7. Criteria for admission

Achievement of FdSc Biomedical Science programme or other FdSc, HND or other external equivalent in a relevant scientific subject with an average score of 50% and a positive reference. International qualifications will be assessed against these criteria. Speakers of other languages will need to possess an IELTS band score of 6.0 (with no-less than 5.5 in any one element) or a recognised English Level 2 qualification.

We welcome applications from candidates who may not precisely match the academic criteria, but can demonstrate experience in their chosen field as well as academic achievement at level 5. Candidates in this category will be interviewed to assess their suitability for the course and asked to provide a portfolio of evidence to support their application. The course structure actively supports claims for Accreditation of Prior Learning (APL).

8. Language of study

English

9. Information about assessment regulations

Dissertation- non compensatable

10. Methods for evaluating and improving the quality and standards of teaching and learning.

In addition to the Annual Programme Monitoring process the following mechanisms are in operation:

- Peer review
- Annual Planning
- Peer Observation
- Student module reviews
- Students voice sampled through happy sheets
- Tutor module reviews
- Enrolment and induction reviews
- Course Committee meetings
- Pathway Committee meetings
- Student Pathway meeting
- Cross college quality and enhancement committee meeting

Annexe 1: Curriculum map

Annexe 2: Map of Outcomes to Modules

Annexe 3: Map of Teaching and Learning Methods

Annexe 4: Assessment Timetable

Annexe 1 - Curriculum map

This table indicates which study units assume responsibility for delivering (shaded) and assessing (✓) particular programme learning outcomes.

Map of Outcomes to Modules										
Module Titles	A1	A2	A3	B1	B2	B3	C1	C2	D1	D2
Targets for Novel Pharmaceutical Agents		✓	✓	✓	✓				✓	
Dissertation	✓		✓	✓	✓	✓	✓	✓	✓	✓
Research Methods	✓		✓	✓			✓	✓	✓	
Recombinant Technology		✓		✓		✓				✓
<i>Applied Biomedical Techniques</i>	✓	✓			✓		✓			✓
<i>Quality Control and Further Analytical Methods</i>		✓		✓		✓		✓	✓	

Annexe 2 - Map of Teaching and Learning Methods

Level 6

	Lectures	Seminars	Tutorials	Practical	Demonstrations	Case studies	Group activities	Guest speakers
Targets for Novel Pharmaceutical Agents	✓	✓	✓	✓	✓	✓	✓	
Dissertation	✓	✓	✓	✓	✓		✓	
Research Methods	✓	✓	✓				✓	
Recombinant Technology	✓	✓	✓	✓	✓		✓	
Applied Biomedical Techniques	✓	✓	✓	✓	✓		✓	
Quality Control and Further Analytical Methods	✓	✓	✓	✓	✓		✓	

Annexe 3 - Map of Assessment Methods

Level 6

	Laboratory activity with report	Assignment	Research project	Reflective Journal	Examination	Presentation	Case study	Viva Voce Oral Exam
Targets for Novel Pharmaceutical Agents					50%	50%		
Dissertation			70%					30%
Research Methods					30%		70%	
Recombinant Technology					70%	30%		
Applied Biomedical Techniques	30%				70%			
Quality Control and Further Analytical Methods		30%			70%			

Annexe 4: Assessment Timetable

Level 6 Full Time

Module	Assessment I	Assessment II
Targets for Novel Pharmaceutical Agents	31 st October	18 th January 2017
Dissertation	24 th April 2017	24 th April 2017
Research Methods	28 th November2016	18 th January 2017
Recombinant Technology	27 th March 2017	5 th June 2017
Applied Biomedical Techniques	27 th March 2017	5 th June 2017
Quality Control and Further Analytical Methods	27 th March 2017	5 th June 2017

Level 6 Part Time

	Module	Assessment I	Assessment II
Year One	Targets for Novel Pharmaceutical Agents	31 st October	18 th January 2017
	<i>Applied Biomedical Techniques</i>	27 th March 2017	5 th June 2017
	<i>Quality Control and Further Analytical Methods</i>	27 th March 2017	5 th June 2017
	Recombinant Technology	27 th March 2017	5 th June 2017
Year Two	Dissertation	24 th April 2017	24 th April 2017
	Research Methods	28 th November2016	18 th January 2017