

**Programme Specification
BSc Applied Biomedical
Science**



1. Programme title	Applied Biomedical Science
2. Awarding institution	Middlesex University
3. Teaching institution	Middlesex University
4. Programme accredited by professional/statutory/regulatory body	
5. Final qualification	BSc (Hons) Applied Biomedical Science
6. Year of validation Year of amendment	
7. Language of study	English
8. Mode of study	BSc (Hons) Applied Biomedical Science: Full-time only

9. Criteria for admission to the programme

Candidates normally require Maths and English equivalent to at least GCSE grade C as well as 112 A level tariff points or equivalent from one of the following awards.

A-levels (including two A2s with at least one science subject, preferably in biology or chemistry at grade C or better)

Or Two AVCEs or one double award in Science

Or EDEXCEL National Diploma or Certificate in biology, chemistry, forensic science, laboratory and industrial science, or medical science

Or Access course in applied science, clinical physiology, human or life sciences, medical or paramedical science, or science.

Or high school equivalent, such as an International Baccalaureate

Additionally, overseas students whose first language is not English will need a qualification that demonstrates competence in English, e.g. IELTS 6.5.

Applicants can make a claim for entry onto the programme with or without advance standing on the basis of either accreditation of prior certified learning or experiential learning.

CRB and health clearances are also required for Applied Biomedical Science. These must be achieved before transfer from the BSc in Biomedical Science. Students, who do not get either a CRB or health clearance, will not be able to transfer from the biomedical science programme.

10. Aims of the programme

The programme aims:

To help the student to develop the knowledge, skills, attitude and ethical values required providing patient-centred care and working safely and effectively in the NHS as a biomedical scientist.

To apply scientific principles and theories underpinning biomedical science to patient care.

To enable students to carry out competently diagnostic investigations relevant to the role of a biomedical scientist.

To develop the student's ability to apply scientific methods and approaches to research, development and innovation.

To help the student develop a range of transferable academic skills required for effective life-long learning, communication, teamworking and leadership.

To give the student an opportunity to gain work experience in a biomedical laboratory.

To prepare the student for employment in a biomedical science laboratory.

To provide the student with the skills required for postgraduate studies in biomedical and health sciences.

11. BSc Programme outcomes	
<p>A. Knowledge and understanding</p> <p>On completion of this programme the successful student will have knowledge and understanding of:</p> <ol style="list-style-type: none"> 1. The scope of practice of biomedical scientist and skills required by a biomedical scientist to provide a high quality diagnostic service. 2. Normal and abnormal biological processes. 3. The principles of diagnosis and management of human disease. 4. The importance of scientific research in the advancement of healthcare practice. 5. Bioanalytical techniques used in clinical pathology and biomedical research. 	<p>Teaching/learning methods</p> <p>Students gain knowledge and understanding through lectures, seminars, laboratory classes, peer presentations, debates, placements in clinical physiology departments, designing and undertaking a research project, role-play and practical clinical sessions.</p> <p>Assessment Method</p> <p>Students' knowledge and understanding is assessed by summative and formative assessment, including peer presentations, laboratory reports, objective-structured practical examinations, online quizzes, and unseen theory examinations and assessment of clinical practice.</p>
<p>B. Cognitive (thinking) skills</p> <p>On completion of this programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Critically evaluate research evidence in the context of current theory or practice. 2. Solve clinical problems. 3. Appraise and synthesise information to gain new insights into aspects of current practice. 4. Reflect on own learning and practice to develop personally and professionally. 	<p>Teaching/learning methods</p> <p>Students learn cognitive skills through lectures, seminars, discussions, peer presentations, a research project and debates</p> <p>Assessment Method</p> <p>Students' cognitive skills are assessed by formative and summative assessment as written work, examinations, online quizzes, case studies, assessment of clinical practice and peer presentation</p>

<p>C. Practical skills On completion of the programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Present information in the most effective format to communicate ideas clearly. 2. Design and undertake a research project. 3. Perform a wide range of common biomedical laboratory techniques competently, and in accordance with health and safety guidelines. 4. Work within scope of practice and professional codes of conduct. 	<p>Teaching/learning methods Students learn practical skills through laboratory classes, clinical skills sessions, placements, and by undertaking a research project.</p> <p>Assessment Method Students' practical skills are assessed formatively and summatively through written work, case presentations, laboratory reports, online quizzes, and in objective structured practical examinations, and assessment of clinical practice.</p>
<p>D. Graduate Skills On completion of this programme the successful student will be able to:</p> <ol style="list-style-type: none"> 1. Communicate their ideas clearly using a variety of media. 2. Work both collaboratively and with an appreciation of the skills required for leadership. 3. Demonstrate an autonomous and reflective approach to lifelong learning. 4. Formulate learning and career development plans. 5. Use a range of information technologies. 6. Demonstrate a high level of numeracy and problem-solving skills. 	<p>Teaching/learning methods Students acquire graduate skills through reading, group work, problem-based learning exercises, structured and directed learning, analysis of case studies, and through reflection, placement and development of portfolio material</p> <p>Assessment method Students' graduate skills are assessed formatively and summatively using written work in the form of portfolios, and also in case studies, presentations, project and research work, and online examinations</p>

12. Programme structure
12.1 Overall structure of the programme
The mode of study for the BSc (Hons) Applied Biomedical Science is four years full time only. It is modular programme. Each module has a credit value of 15 or 30 credits, with the exception of the sandwich Placement Module, which is worth 120 credits. The total credit required for the BSc(Hons) Applied Biomedical Science is 480 credit points.

12.2 Levels and modules		
Level 4		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
All students must take all of the following: BMS1154 BMS1654 BMS1514 BMS1854 BMS1994	There are no optional modules.	Normally all modules must be passed but a marginal failed module may be compensatable in accordance with University regulations.
Level 5		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
All students must take all of the following: BMS2007 BMS2225 BMS2125 BMS2135 BMS2145 BMS2515	There are no optional modules.	Normally all modules must be passed but a marginal failed module may be compensatable in accordance with University regulations.
Level 6		
COMPULSORY	OPTIONAL	PROGRESSION REQUIREMENTS
Students on the BSc programmes must also take the following: BMS3136 BMS3326 BMS3336 BMS3346 BMS3006	There are no optional modules.	All modules must be passed to achieve the award.

12.3 Non-compensatable modules	
Module level	Module code
5	BMS2515
6	All

13. A curriculum map relating learning outcomes to modules
See Curriculum Map attached.

14. Information about assessment regulations
The assessment regulations are the general university regulations. A grade of at least 30% for a failed component is required before the grade can be included in the aggregation of the overall module grade.

15. Placement opportunities, requirements and support (if applicable)
Students are only placed in University approved learning environments. Placement Tutors in collaboration with placement providers will ensure that learning opportunities and support will be available in the placement area to help students meet the module learning outcomes and HCPC Standards of Proficiency. An academic from the University visits the student on placement to monitor the student's progress. Both parties will also ensure that a robust quality monitoring processes will be in place and

establish clear lines of communications.

Before students can transfer from the Biomedical Science programme in year 3, they must get an enhanced DBS and Occupational Health clearance. Placement is unpaid.

Students are notified in advanced of their placement allocation and contact details of placement staff. Students are also required to attend placement on weekdays that they are not studying at the university.

At the start of each placement, students will receive an induction and support and guidance will be provided for students with diverse needs.

Each placement area is assigned a Placement Tutor and given a copy of the placement handbook, which outlines for example lines of communication, contact details of key academic staff, attendance policy and complaint procedures. Practice learning is assessed using the training manual and written assignments.

Students will go on a year-long placement in year 4.

16. Future careers (if applicable)

Biomedical science graduates can gain employment in a wide variety of settings, particularly laboratory-based work. Graduates could be employed in the National Health Service, pharmaceutical, forensic, Public Health, veterinary, agriculture or university laboratories; others may obtain posts in sales and marketing of biomedical products, or in education at all level.

17. Particular support for learning (if applicable)

Specialist laboratory facilities available on site to learn and develop practical skills
Online support for all modules in the programme available on My Learning
Learning resource facilities at the University including computing suites and internet access
Access to English Language and Learning Support on campus
Dyslexic support

18. JACS code (or other relevant coding system)

C701 BSc (Hons) Applied Biomedical Science

19. Relevant QAA subject benchmark group(s)

Biomedical Science

20. Reference points

The following reference points were used in designing the Programme:

Internal documentation:

- i. Middlesex University (2006) *Learning Framework Document*
- ii. Middlesex University (2013) *Middlesex University Regulations*. MU
- iii. Middlesex University (2011) *CLQE Handbook*. MU

External Documentation:

1. Department of Health (DH) (2010) *Modernising Scientific Careers Programme BSc (Hons) in Healthcare Science (Life Sciences), Learning Outcomes and Indicative Content 2010/11*. DH
2. Institute of Biomedical Science (IBMS) (2012) *Criteria and requirements for BSc (Hons). MSc degrees in biomedical science(s) and top-up qualifications*. IBMS

3. Quality Assurance Agency (2001) *The QAA Framework for framework for higher education qualifications in England, Wales and Northern Ireland*. QAA
4. Quality Assurance Agency (2007) *Code of practice for the assurance of academic quality and standards in higher education - Section 9: Work-based and placement learning*. QAA
5. Quality Assurance Agency (2007) *Subject Benchmark Statements for Biomedical Science*. QAA

21. Other information

Please note programme specifications provide a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve if s/he takes full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the student programme handbook and the University Regulations.

Curriculum map for *BSc(Hons) Applied Biomedical Science*

This section shows the highest level at which programme outcomes are to be achieved by all graduates, and maps programme learning outcomes against the modules in which they are assessed.

Programme learning outcomes

Knowledge and understanding		Practical skills	
A1	The scope of practice of biomedical scientist and skills required by a biomedical scientist to provide a high quality diagnostic service	C1	Present information in the most effective format to communicate ideas clearly
A2	Normal and abnormal biological processes	C2	Design and undertake a research project
A3	The principles of diagnosis and management of human disease	C3	Perform a wide range of clinical procedures competently, and in accordance with health and safety guidelines
A4	The importance of scientific research in the advancement of healthcare practice	C4	Work within scope of practice and professional codes of conduct
A5	Bioanalytical techniques used in clinical pathology and biomedical research	C5	Competently perform advanced biomedical laboratory techniques in accordance with health and safety guidelines
Cognitive skills		Graduate Skills	
B1	Critically evaluate research evidence in the context of current theory or practice	D1	Communicate their ideas effectively using a variety of media
B2	Solve clinical problems	D2	Work both collaboratively and with an appreciation of skills required for leadership
B3	Appraise and synthesise information to gain new insights into aspects of current practice	D3	Demonstrate an autonomous and reflective approach to lifelong learning
B4	Reflect on own learning and practice to develop personally and professionally	D4	Formulate learning and career development plans
		D5	Use a range of information technologies
		D6	Demonstrate a high level of numeracy and problem-solving skills

	Module Code by Level	Programme outcomes																									
		A 1	A 2	A 3	A 4	A 5			B 1	B 2	B 3	B 4				C 1	C 2	C 3	C 4	C 5		D 1	D 2	D 3	D 4	D 5	D 6
Professional Practice for Biomedical Science	BMS1154	x			x				x		x	x				x	x					x	x	x	x	x	x
Biomolecular Science	BMS1654		x													x		x									
Human Sciences	BMS1514		x	x						x						x											
Cell Sciences	BMS1854		x													x		x									
Introduction to Biomedical Science	BMS1994	x				x			x	x						x		x									
Research Methods and Professional Practice	BMS2005				x						x	x				x	x					x	x	x	x	x	x
Molecular and Genetic Sciences	BMS2225		x			x					x	x				x		x									
Cellular Sciences	BMS2125		x			x						x				x		x									
Blood Sciences	BMS2135		x			x						x				x		x									
Infection Sciences	BMS2145		x			x						x				x		x									
Clinical Sciences	BMS2515		x	x							x	x				x											
Dissertation	BMS3336		x		x				x	x	x	x				x	x					x	x	x	x	x	x
Cellular and Molecular Pathology	BMS3326		x	x		x					x	x				x		x									
Transplantation, Transfusion and Specialist Biochemistry	BMS3136		x	x		x					x	x				x		x									
Medical Microbiology	BMS3346		x	x		x					x	x				x		x									
Placement for Employability	BMS3006										x	x	x			x			x			x	x	x	x	x	