Programme Specification 2025-26

1.	**Programme title**	MSc Biomedical Science
2.	**Awarding institution**	Middlesex University
3a	**Teaching institution**	Middlesex University London
3b	**Language of study**	English

4a	**Valid intake dates and mode of study**

Mode of Study	Cohort	Delivery Location	Duration
Full-time (FT)	Semester 1	Hendon	1 Years
Part-time (PT)	Semester 1	Hendon	2 Years

4c	**Delivery method**	On Campus/Blended Learning

5. Professional/Statutory/Regulatory body (if applicable)
Institute of Biomedical Science (IBMS)

6.	**Apprenticeship Standard** (if applicable)	N/A

7. Final qualification(s) available
Target Award Title(s)
MSc Biomedical Science
Exit Award Title(s)
MSc Biomedical Science (Cellular Pathology)
MSc Biomedical Science (Clinical Biochemistry)
MSc Biomedical Science (Haematology and Transfusion Science)
MSc Biomedical Science (Medical Genomics)
MSc Biomedical Science (Medical Immunology)
PGCert Biomedical Science (Cellular Pathology)
PGCert Biomedical Science (Clinical Biochemistry)
PGCert Biomedical Science (Haematology and Transfusion Science)
PGCert Biomedical Science (Medical Genomics)
PGCert Biomedical Science (Medical Immunology)
PGCert Biomedical Studies

PGDip Biomedical Science (Cellular Pathology)
PGDip Biomedical Science (Haematology and Transfusion Science)
PGDip Biomedical Science (Medical Genomics)
PGDip Biomedical Science (Medical Immunology)

8. Academic year effective from	2025-26

9. Criteria for admission to the programme

Candidates must meet at least one of the first two criteria below:
i. A good honours degree (minimum 2.ii) or equivalent qualification, in an appropriate subject. *
ii. Applicants with other qualifications and / or substantial work experience in biomedical science will also be considered under the Recognition of Prior Learning (RPL) scheme. Past learning or experience will be mapped against existing programme modules within the programme and the mapping will be considered by the Faculty RPL Sub-committee.
iii. Overseas Candidates should also be competent in English and have achieved, as a minimum, one of the following standards: IELTS 6.5 (with minimum 6.0 in all components); TOEFL 84.). An important component of assessment throughout the programme is the ability for students to communicate clearly with flexibility and precision, progress arguments with clear organisation of evidence, and integrate theory, practice and empirical evidence. This is indicative of an English proficiency level equivalent to an IELTS 7.0
Applicants with a disability can enter the programme following assessment to determine if they can work safely in the laboratory. The programme team have experience of adapting teaching provision to accommodate a range of disabilities and welcome applications from students with disabilities.
*Appropriate example subjects for all programmes include but are not restricted to: Biomedical Science, Biology with human biology content, Medical Laboratory Science, Clinical Laboratory Science, Medical Laboratory Technology, Biochemistry, Medicine

Principle of fair admission
The University aims to ensure that its admissions processes are fair, open and transparent and aims to admit students who, regardless of their background, demonstrate potential to successfully complete their chosen programme of study where a suitable place exists and where entry criteria are met. The University values diversity and is committed to equality in education and students are selected on the basis of their individual merits, abilities and aptitudes. The University ensures that the operation of admissions processes and application of entry criteria are undertaken in compliance with the Equality Act.
We take a personalised and fair approach to how we make offers. We feel it's important that our applicants continue to aspire to achieving great results and make offers which take into account pieces of information provided to us on the application form.
This includes recognition of prior learning and experience. If applicants have been working, or you have other learning experience that is relevant to your programme, then we can count this towards your entry requirements and even certain modules once you start studying.

10. Aims of the programme

The programme aims to:

Explore new horizons with the MSc programme at Middlesex University, designed to enhance your expertise and passion for biomedical science. Accredited by the Institute of Biomedical Sciences (IBMS), our programme focuses on hands-on learning and offers flexible timetables to fit your life. Join us and become a leader in the evolving world of biomedical science. This programme is ideal for practitioners in diagnostics and research laboratories who aspire to lead in their field. Students gain a deep understanding of major pathological processes and master advanced laboratory techniques crucial for accurate diagnosis. This knowledge will place graduates at the cutting edge of biomedical science, equipped with the latest advancements and specialized skills for modern health science laboratories.

Our programme emphasises core professional and research skills, including laboratory management, leadership, and experimental design, all within ethical and legal frameworks. By integrating themes from various biomedical science disciplines, including clinical biochemistry, cellular pathology, haematology, immunology, and genomics, we ensure students develop a broad proficiency to tackle complex diseases that span multiple fields.

Students will engage with current biomedical science research literature to develop critical thinking and adaptability. Our programme nurtures skills in managing change, empathetic communication, inclusion, teamwork, innovation, resilience, and adaptability.

Students will benefit from our state-of-the-art laboratories, expert faculty, and connections with leading London hospital laboratories and Public Health England.

11. Programme learning outcomes

Programme - Knowledge and Understanding

On completion of this programme the successful student will have a knowledge and understanding of:

1. The aetiology, pathology, and treatment of common diseases, demonstrating a comprehensive understanding of complex biomedical concepts and their practical applications

2. Ethical issues in biomedical science, applying advanced ethical frameworks and principles to real-world scenarios, and demonstrating a deep understanding of the moral and legal implications of biomedical research and practice.

3. Advanced diagnostic and bioanalytical techniques, demonstrating proficiency in the application of these methods to complex biomedical problems and the interpretation of data to inform clinical decision-making.

4. Advanced research methodologies, demonstrating the ability to conduct independent research, analyse complex data sets, and contribute original knowledge to the field of biomedical science.

5. Leadership theories and laboratory management principles, demonstrating the ability to lead and manage teams effectively, optimise operations, and contribute to strategic decision-making in a biomedical context.

Programme - Skills

On completion of this programme the successful student will be able to:

6. Critically evaluate and synthesize complex literature, concepts, and principles to develop innovative and advanced ideas, demonstrating a comprehensive understanding of the field.
7. Analyse, present, interpret, and critically evaluate complex biomedical data, demonstrating proficiency in data handling and the ability to draw meaningful conclusions from intricate datasets.
8. Design and implement a sophisticated research project aligned with the specialism, demonstrating the ability to conduct independent research, manage project timelines, and contribute original findings to the field.
9. Perform advanced biomedical laboratory techniques, ensuring accuracy, reliability, and adherence to best practices in a laboratory setting.
10. Innovate and propose new biomedical laboratory techniques, ensuring compliance with health and safety guidelines, and demonstrating the ability to enhance laboratory practices through creative problem-solving.
11. Critically evaluate research findings within the context of existing literature, demonstrating the ability to contextualize results, identify gaps in knowledge, and propose new hypotheses relevant to the discipline.
12. Design, execute, and critically evaluate research experiments or equivalent task-based activities relevant to the specialism, demonstrating technical proficiency, adherence to rigorous scientific standards, and the ability to contribute original insights to the field.

12. Teaching/learning methods
Students gain knowledge and understanding through on campus taught components supported by online material. Our learning approach encourages digital literacy, utilising live research informed teaching and practice-led learning sessions, engaged with pre-recorded content, seminars, workshops, problem solving tasks, small group discussions & presentations, student and teacher led learning sessions. An understanding of the subject is assessed in both summative and formative methods. Students are encouraged to participate in, and lead student communities via co-leadership opportunities throughout the academic year such as group learning, student forums, programme voice groups and an ability to co-design their research methods and dissertation assessments. Students learn skills through formative and summative assessments, participation in synchronous and asynchronous activities including seminars, practical sessions, problem-based learning and workshops. Students will also undertake varied learning approaches to learning through self-directed study and pre-recorded/live online content, including key concept videos and online quizzes during and after classroom sessions. Students' engagement with directed activities will be monitored by checking access to My Learning materials. Peer-review, and self-reflection skills are also developed. An inclusive curriculum approach is fostered particularly through collaborative working which is embedded throughout the programme. Graduate competencies are integrated within all modules, and students are given a chance to apply the theory and skills they have learnt in class to practice via the research project module, which develops student employability. Employer engagement is

encouraged and integrated throughout the programme design and delivery through authentic assessments, guest speakers and employability initiatives. The programme has a strong focus on both good health and wellbeing, as well as high quality education, in line with the UN's sustainable development goals.

Approx. number of timetabled hours per week (at each level of study, as appropriate), including on-campus and online hours FT 11 hours, PT 5.5 hours.

Approx. number of hours of independent study per week (at each level of study, as appropriate)FT 33 hours, PT 16.5 hours

Approx. number of hours on placement (including placement, work-based learning or year abroad, as appropriate). FT N/A, PT N/A

13. Employability

13a Development of graduate competencies

13b Employability development

Development of graduate competencies
The approaches to learning ensure that students develop graduate competencies such as leadership, utilising new technologies and effective communication of complex ideas throughout the programme. Through problem-based learning approaches, students become adept at problem solving, develop into curious learners, working collaboratively with peers to innovate in group work. The course is designed to get students to apply innovative methodologies to address real-world issues and problems that affect their subject discipline. Technological agility is supported throughout with the use of various software and online platforms, which are integrated into group work, assessments and learning, as appropriate. The integration of group and individual presentations develops students' ability to communicate and become resilient and adaptable learners. The capstone Research Project allows students to demonstrate knowledge and multiple competencies acquired on the degree to address a real-world problem.

Employability development
The programme includes modules featuring guest speakers from leading industry experts and authentic assessments that replicate real-world tasks. The teaching staff comprise not only cutting-edge educational Biomedical Science practitioners but also those engaged in world-class research and practice. Students are encouraged to undertake research projects closely aligned to this research, so they have a chance to apply what they have learnt into practice, whilst also having the potential to research and impact practice. Combined, this ensures students gain a deeper understanding of sector expectations and enhances students' career readiness and graduate outcomes.
Specific employability sessions are embedded into the core modules which encourage students to map their current 'toolkit' in relation to discipline specific skills. A specific employability session has been embedded into the core module delivered by guest speakers/pathology practice educators on "CV, job application and interview" which encourage students to map their toolkit in relation to specific skills. This is supported by Middlesex University's dedicated careers and employability service which provides students with employability workshop sessions and personalised career support. This includes one-on-one appointments with employability advisers and resources such as CV and application feedback and mock interviews.

The university's employability networks connect students with top employers such as NHS Trusts, Glaxo Smith Kline, and UK Health Security Agency and private diagnostic labs such as HSL, HCA and TDL. These connections provide students with valuable opportunities to engage with industry leaders, secure work placements, and build professional networks in their field.
13c Placement and work experience opportunities (if applicable)
N/A
13d Future careers / progression
A qualification at master's level is increasingly becoming a requirement for progression via a PhD into a research career. A master's degree is also an important means for health care professionals to develop the skills necessary to progress from Specialist Practitioner to Higher Specialist Practitioner. Graduates from our MSc Biomedical Science programmes have gone on to work in many sectors including large NHS diagnostic laboratories and pathology service providers such as Synnovis and HSL, UK Universities, world-leading research institutes such as The National Institutes of Health and The Institute of Cancer Research and major manufacturing and pharmaceutical companies including Shimadzu and UCB.

14. Assessment methods
Students' knowledge and understanding is assessed by both summative and formative assessments, which include seminar presentations, written assignments, including case-studies and laboratory reports. Students' skills are assessed by written assignments, presentations, and research project. Practical skills are assessed by laboratory reports and dissertation.

15. Programme Structure (level of study, modules, credits and progression requirements)
Structure is indicative for Part-time routes. Students must take all of the compulsory modules and choose following programme requirements from the optional modules. Non-compensatable modules are noted below.

Available Pathways
Biomedical Science (Cellular Pathology)
Biomedical Science (Clinical Biochemistry)
Biomedical Science (Haematology and Transfusion Science)
Biomedical Science (Medical Genomics)
Biomedical Science (Medical Immunology)

Biomedical Science (Cellular Pathology)
Year 1

Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4801	Optional	Cellular Pathology 2025-26	30 at Level 7
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4800	Compulsory	Biology and diagnosis of disease 2025-26	30 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4997	Compulsory	Research Project 2025-26	60 at Level 7

Year 2

Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7
BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7
BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7

Biomedical Science (Clinical Biochemistry)

Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4802	Optional	Clinical Biochemistry 2025-26	30 at Level 7
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4800	Compulsory	Biology and diagnosis of disease 2025-26	30 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4997	Compulsory	Research Project 2025-26	60 at Level 7

Year 2

Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7
BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7
BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7

Biomedical Science (Haematology and Transfusion Science)
Year 1

Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4800	Compulsory	Biology and diagnosis of disease 2025-26	30 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4997	Compulsory	Research Project 2025-26	60 at Level 7
BMS4803	Optional	Haematology and Transfusion Science 2025-26	30 at Level 7

Year 2

Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7
BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7

BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7

Biomedical Science (Medical Genomics)
Year 1

Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4805	Optional	Medical Genomics 2025-26	30 at Level 7
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4800	Compulsory	Biology and diagnosis of disease 2025-26	30 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4997	Compulsory	Research Project 2025-26	60 at Level 7

Year 2

Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7

BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7
BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7

Biomedical Science (Medical Immunology)
Year 1

Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4804	Optional	The Immune response and Immunotherapy 2025-26	30 at Level 7
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4800	Compulsory	Biology and diagnosis of disease 2025-26	30 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4997	Compulsory	Research Project 2025-26	60 at Level 7

Year 2

Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level

BMS4977	Compulsory	Advanced Bioanalytical Techniques 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7
BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7
BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7

*Please refer to your programme page on the website re availability of option modules

16. Programme-specific support for learning

We have specialist laboratory facilities for the development of practical skills. Our laboratories for research and postgraduate teaching are based at Hendon, London. These include a molecular biology lab for techniques such as DNA sequencing, real-time PCR, electrophoresis, Tissue Culture facility, flow cytometer as well as a fully equipped proteomics facility. Access to specialist journals will be provided by Middlesex University Library. Other articles may be obtained from the British Library in London where a similar arrangement for photocopying articles exists.

Applicants with a disability can enter the programme following an assessment of their needs to determine if they can work safely in the laboratory. The programme team have experience of adapting the programme to accommodate a range of disabilities in students on the biomedical science programmes and welcome applications from such students. This will be administered in conjunction with the programme leader. Additional support for modules is delivered via our virtual learning environment.

17. HECos code(s)	100265: Biomedical Sciences

18. Relevant QAA subject benchmark(s)	Biomedical Science and Biomedical Sciences 2023

19. University Regulations

This programme will run in line with general University Regulations: Policies | Middlesex University

This programme will run in line with general University regulations, which can be found here: Policies | Middlesex University.

20. Reference points

1.2031 Learning Framework
2.Graduate Competencies
3.IBMS (2024) Criteria and Requirements for the Accreditation and Re-accreditation of MSc degrees. IBMS.
4.Quality Assurance Agency (2020) QAA Master's Degree Characteristics. London, QAA
5.United Nations Sustainable Development Goals and its 2030 Agenda for Sustainable Development

21. Other information *(if applicable)*

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 they take full advantage of the learning opportunities that are provided. More detailed information about the programme can be found in the rest of your programme handbook and the university regulations.

Curriculum map for MSc Biomedical Science

Programme learning outcomes

Knowledge and understanding

A 1	The aetiology, pathology, and treatment of common diseases, demonstrating a comprehensive understanding of complex biomedical concepts and their practical applications.
A 2	Ethical issues in biomedical science, applying advanced ethical frameworks and principles to real-world scenarios, and demonstrating a deep understanding of the moral and legal implications of biomedical research and practice.
A 3	Advanced diagnostic and bioanalytical techniques, demonstrating proficiency in the application of these methods to complex biomedical problems and the interpretation of data to inform clinical decision-making.
A 4	Advanced research methodologies, demonstrating the ability to conduct independent research, analyze complex data sets, and contribute original knowledge to the field of biomedical science.
A 5	Leadership theories and laboratory management principles, demonstrating the ability to lead and manage teams effectively, optimise operations, and contribute to strategic decision-making in a biomedical context.

Skills

B 1	Critically evaluate and synthesize complex literature, concepts, and principles to develop innovative and advanced ideas, demonstrating a comprehensive understanding of the field.
B 2	Analyse, present, interpret, and critically evaluate complex biomedical data, demonstrating proficiency in data handling and the ability to draw meaningful conclusions from intricate datasets.
B 3	Design and implement a sophisticated research project aligned with the specialism, demonstrating the ability to conduct independent research, manage project timelines, and contribute original findings to the field.
B 4	Perform advanced biomedical laboratory techniques, ensuring accuracy, reliability, and adherence to best practices in a laboratory setting.
B 5	Innovate and propose new biomedical laboratory techniques, ensuring compliance with health and safety guidelines, and demonstrating the ability to enhance laboratory practices through creative problem-solving.
B 6	Critically evaluate research findings within the context of existing literature, demonstrating the ability to contextualize results, identify gaps in knowledge, and propose new hypotheses relevant to the discipline.

B 7	Design, execute, and critically evaluate research experiments or equivalent task-based activities relevant to the specialism, demonstrating technical proficiency, adherence to rigorous scientific standards, and the ability to contribute original insights to the field.

Programme learning outcomes – Highest level achieved by graduates

A 1	A 2	A 3	A 4	A 5	B 1	B 2	B 3	B 4	B 5	B 6	B 7
7	7	7	7	7	7	7	7	7	7	7	7

Mapping by level of study and module

Module Title	**Module Code by Level of study**	A 1	A 2	A 3	A 4	A 5	B 1	B 2	B 3	B 4	B 5	B 6	B 7
Level 7													
Biology and Diagnosis of Disease	BMS4800	x		x				x					
Experimental Design and Statistics	BMS4887				x			x					
Advanced Bioanalytical Techniques	BMS4977			x						x			
The immune response and immunotherapy (option)	BMS4804	x	x				x	x		x	x		
Clinical Biochemistry (option)	BMS4802	X	x				x	x		x	x		
Haematology and Transfusion Science (option)	BMS4803	x	x				x	x		x	x		
Medical Genomics (option)	BMS4805	x	x				x	x		x	x		
Leadership and Management	BMS4677					x							
Bioethics	BMS4477		x										
Research Project	BMS4997		x		x	x	x	x	x	x	x	x	x
Cellular Pathology (option)	BMS4801	x	x				x	x		x	x		