Programme Specification 2025/26

1.	**Programme title**	MSc Pharmaceutical Sciences
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)
N/A

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

7. Final qualification(s) available
Target Award Title(s)
MSc Pharmaceutical Sciences
Exit Award Title(s)
PGCert Biomedical Studies
PGCert Pharmaceutical Sciences
PGDip Biomedical Studies
PGDip Pharmaceutical Sciences

8. Academic year effective from	2025-26

9. Criteria for admission to the programme

A second-class honours degree 2.2 or higher in a related science subject such as pharmacy, pharmaceutical science, pharmacology, chemistry, biochemistry, biotechnology, biomedical science and medical science.

Overseas candidates, whose first language is not English, will need a qualification that demonstrates competence in English language: IELTS 6.5 (with minimum 6.0 in all components) or an equivalent English qualification.

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 exits 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 you 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:

This programme prepares students for impactful careers in the pharmaceutical and healthcare industries. The programme provides students with a comprehensive understanding of drug discovery and development, including target identification, clinical trials, regulatory approval, patent law, and post-market surveillance. Students gain practical experience in computer-aided drug design and analytical techniques, developing essential computer and laboratory skills required by the pharmaceutical industry. The programme also aims to enhance leadership and negotiation abilities, empowering students to inspire others to achieve business goals. Additionally, it focuses on enabling students to conduct high-quality experimental research.

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 process of drug discovery and development from target identification to post-market surveillance.

2. Specialised computer software used in pharmaceutical research and drug development.

3. The ethical and legal frameworks governing pharmaceutical research and drug development.
4. Advanced analytical techniques used in drug discovery and development.
5. Effective management of people, resources, and processes within a pharmaceutical organisation to achieve organisation goals.
6. The application of sustainable development principles in drug discovery and development, in line with the United Nations Sustainable Development Goals, to enhance global health and well-being while considering environmental protection issues.
Programme - Skills On completion of this programme the successful student will be able to:
7. Develop innovative ideas by evaluating research evidence and applying scientific concepts and principles.
8. Present, analyse, and critically evaluate scientific information and data to effectively support drug discovery and development.
9. Perform advanced analytical laboratory techniques with competence and adherence to health and safety guidelines.
10. Work collaboratively within a team to progress the development of a project.
11. Conduct research to advance the body of knowledge in pharmaceutical science, discover new drugs or improve existing ones.
12. Design experiments to test the safety and efficacy of drug compounds.

12. Teaching/learning methods
Throughout semesters 1 and 2, learning is supported and enhanced by a flipped classroom approach, where students review learning resources at home before and after class, complemented by interactive activities during class sessions. The classes are designed to promote acquisition of knowledge and development of cognitive and practical skills. Students acquire knowledge and understanding through short key concept videos, seminars, computational workshops, laboratory classes, peer presentations, debates, and by designing and undertaking research projects. Cognitive skills are developed through active learning strategies such as case studies based on real-world scenarios, peer presentations, research projects, debates, and real-world problem-solving exercises. Practical skills are developed through undertaking activities in laboratory and computational classes, along with conducting a research project. In semester 3, students acquire new knowledge, develop cognitive and practical skills by conducting research. Finally, at the end of each module, students are expected to reflect on their learning and assessment feedback to solidify their understanding of the module topics.

Approx. number of timetabled hours per week (at each level of study, as appropriate), including on-campus and online hours FT: 8 hours, PT: 4 hours Approx. number of hours of independent study per week (at each level of study, as appropriate)FT: 32 hours, PT:16 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 •Curiosity and Learning All modules encourage exploration and inquisition through directed learning activities before, during and after class. Module assessments are designed to encourage and evaluate creativity and depth of exploration into a specific topic or case study. •Collaborative Innovation Team-based projects and interdisciplinary workshops, like those in Drug Discovery and Development, foster collaboration among students from diverse backgrounds. Group presentations within the Drug Discovery and Development module, along with collaborative laboratory work in the Quality Assurance and Quality Control module, assess both the results and the collaborative efforts involved. •Resilience and Adaptability Modules like Drug Discovery and Development, Quality Assurance and Quality Control, and Cheminformatics expose students to real-world case studies and problem-based learning scenarios, requiring them to adapt their approaches. Situational assessments in Quality Assurance and Quality Control measure how students handle unexpected challenges and feedback loops, such as adapting failed experiments or troubleshooting methodological procedures. •Technological Agility The programme strongly emphasises developing technological competence. Modules such as Experimental Design and Statistics, Advanced Bioanalytical Techniques, Cheminformatics, and Research Projects specifically require students to use computational tools and technologies to analyse and visualize data, and to solve problems for in-class activities and module assessments. •Entrepreneurship Modules such as Drug Discovery and Development and Leadership and Management provide an insight into the management and the business side of the pharmaceutical industry. Drug Discovery and Development assess proposals for on new drug development ideas. •Communication, Empathy, and Inclusion

Workshops on Drug Discovery and Development, Advanced Bioanalytical Technique, and Quality Assurance and Quality Control, module specifically foster the development of effective communication skills, with an emphasis on empathy and inclusivity. Additionally, for Drug Discovery and Development, peer and self-assessments in group work focus on communication dynamics while presentations are evaluated for clarity and inclusiveness.

•Leadership and Influence
The Leadership and Management module and Drug Discovery and Development modules students with opportunities to lead group tasks. The Leadership and Management module assessment also includes an evaluation of the effectiveness of leadership styles in helping an organization achieves its strategic goals.

•Problem Solving and Delivery
Across all modules, students engage in activities that develop their ability to identify problems, evaluate solutions, and deliver impactful outcomes. For the specialist modules, in particular, real-world problem-based case study activities are used to give students the experience of tackling and solving complex drug discovery and development challenges. Additionally, the capstone project requires students to identify a problem and carry out an original scientific investigation to address the research question.

Integration into Programme Design
•Capstone Project
The Research Project module capstone project allows students to demonstrate knowledge and multiple competencies acquired on the degree to address a real-world problem.

•Reflective Practices
Students are encouraged to reflect on their learning and assessment feedback across all modules to consolidate their understanding and progress.

Employment development

1.Career Readiness Activities
•Career Workshops: Our workshops focus on CV building, job applications, and interview preparation, tailored to career opportunities in pharmaceutical research, healthcare, and data science.
•Research Showcase: Students present their research ideas, readings, and projects to peers and academics, enhancing communication skills and building professional networks.

2.Professional Body Engagement
•Curriculum Input: The Association for Pharmaceutical Sciences indicative syllabus informed the developed of the curriculum.

3.Continually Updating Employability Development
•Student Feedback: Surveys capture student reflections on employability activities, helping identify areas for improvement.
•Graduate Outcomes: The university tracks employment destinations and gathers alumni feedback to evaluate career preparedness.

4.Employability Integration
•Career Mapping Workshop: Early in the year, the university guides students in identifying career goals and planning their trajectory.

•Individual Consultations: Towards the end, programme leader offers one-on-one sessions to refine CVs, prepare for interviews, and strategize career transitions.
•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.

13c Placement and work experience opportunities (if applicable)

N/A

13d Future careers / progression

Graduates can pursue various roles, including positions as computational chemists, medicinal chemists, pharmaceutical scientists, and regulatory affairs specialists. Career opportunities are available with leading pharmaceutical companies like GlaxoSmithKline, Eli Lilly, and AstraZeneca, as well as with smaller biotechnology firms and contract research organisations.

Beyond laboratory-based careers, graduates seek employment with government regulatory bodies, engage in science education, manage projects, or delve into intellectual property, such as patent law.

This programme is ideal for those with a background in science-based subjects, preparing them for PhD-level research or a career in the pharmaceutical industry.

14. Assessment methods

Students' knowledge, understanding and skills are assessed by summative and formative assessment, including oral/video presentations, written work such as laboratory reports, essays, online quizzes and in-class tests.

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

Not Applicable

Year 1
Year 1 Level 7 FT and PT

Code	Type	Module Title	Credits at FHEQ Level

CHE4100	Compulsory	Drug Discovery and Development 2025-26	30 at Level 7
CHE4230	Optional	Quality Assurance and Quality Control 2025-26	30 at Level 7
CHE4747	Optional	Cheminformatics 2025-26	30 at Level 7
BMS4998	Compulsory	Research Project 2025-26	60 at Level 7
BMS4477	Compulsory	Bioethics 2025-26	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2025-26	15 at Level 7
BMS4677	Compulsory	Leadership and Management 2025-26	15 at Level 7
BMS4977	Compulsory	Advanced Bioanalytical Techniques 2025-26	15 at Level 7

Year 2
Year 2 Level 7 PT

Code	Type	Module Title	Credits at FHEQ Level
BMS4677	Compulsory	Leadership and Management 2026-27	15 at Level 7
BMS4998	Compulsory	Research Project 2026-27	60 at Level 7
BMS4477	Compulsory	Bioethics 2026-27	15 at Level 7
BMS4887	Compulsory	Experimental Design and Statistics 2026-27	15 at Level 7

BMS4977	Optional	Advanced Bioanalytical Techniques 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
Students benefit from a variety of support resources that enhance their academic and career development. Specialist support includes: •Academic advice and support from the programme leader and project supervisor. •Access to specialist laboratories and skill-building workshops. •Networking opportunities and resources through groups like the Academy of Pharmaceutical Sciences. •Workshops on lab techniques and industry-relevant data analysis tools. Together, these resources help students improve their academic and professional skills.

17. HECos code(s)	100420: Medicinal Chemistry

18. Relevant QAA subject benchmark(s)	

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: https://www.mdx.ac.uk/about-us/policies/

20. Reference points
Internal reference points: •Middlesex University (2024) 2031 Learning Framework. MU. •Middlesex University (2024) Learning and Quality Enhancement Handbook. MU. •Middlesex University (2024) Middlesex University Regulations. MU. External reference points are: •Quality Assurance Agency for Higher Education (QAA) (2018) UK quality code for higher education. Part A: Setting and maintaining academic standards. Available at: https://www.qaa.ac.uk/docs/qaa/quality-code/revised-uk-quality-code-for-higher-education.pdf (Accessed: 15 November 2024) •Quality Assurance Agency for Higher Education (QAA) (2020) Characteristics Statement Master's Degree. Available at: https://www.qaa.ac.uk/docs/qaa/quality-code/master's-degree-characteristics-statement.pdf?sfvrsn=6ca2f981_10 (Accessed: 15 November 2024). •United Nations (2015) Transforming our world: the 2030 Agenda for Sustainable

Development. Available at: https://sdgs.un.org/2030agenda (Accessed: 15 November 2024).

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 Drug Design and Discovery

Programme learning outcomes

Knowledge and understanding

A1	The process of drug discovery and development from target identification to post-market surveillance.
A2	Specialised computer software used in pharmaceutical research and drug development.
A3	The ethical and legal frameworks governing pharmaceutical research and drug development.
A4	Advanced analytical techniques used in drug discovery and development.
A5	Effective management of people, resources, and processes within a pharmaceutical organisation to achieve organisation goals.
A6	The application of sustainable development principles in drug discovery and development, in line with the United Nations Sustainable Development Goals, to enhance global health and well-being while considering environmental protection issues.

Skills

B1	Develop innovative ideas by evaluating research evidence and applying scientific concepts and principles.
B2	Present, analyse, and critically evaluate scientific information and data to effectively support drug discovery and development.
B3	Perform advanced analytical laboratory techniques with competence and adherence to health and safety guidelines.
B4	Work collaboratively within a team to progress the development of a project.

B5	Conduct research to advance the body of knowledge in pharmaceutical science, discover new drugs or improve existing ones.
B6	Design experiments to test the safety and efficacy of drug compounds.

Programme learning outcomes - Highest level achieved by graduates

A1	A2	A3	A4	A5	A6	B1	B2	B3	B4	B5	B6
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	A 6	B 1	B 2	B 3	B 4	B 5	B 6
Level 7													
Experimental Design and Statistics	BMS4887		x					x	x				x
Advanced Bioanalytical Techniques	BMS4977				x					x			
Drug Discovery and Development	CHE4100	x	x	x			x				x		
Bioethics	BMS4477			x				x					
Leadership and Management	BMS4677					x					x		
Quality Assurance and Quality Control	CHE4230	x			x			x					x
Cheminformatics	CHE4747	x	x						x				
Research Project	BMS4998	x			x	x		x	x	x		x	x