



# Course Specification

## MSc Medical Biochemistry

Course Code: MSBMC

2024/25

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# MSc Medical Biochemistry (MSMBC)

## Applicant Course Specification for 2024/25 Postgraduate Entrants

Confirmed in November 2023

### General Information

<b>Award</b>	Master of Science Medical Biochemistry
<b>Contained Awards</b>	Postgraduate Certificate Medical Biochemistry Postgraduate Diploma Medical Biochemistry
<b>Awarding Body</b>	Leeds Beckett University
<b>Level of Qualification and Credits</b>	Level 7 of the Framework for Higher Education Qualifications, with 180 credit points at Level 7 of the Higher Education Credit Framework for England.
<b>Course Lengths and Standard Timescales</b>	<p>Start dates will be notified to students via their offer letter. The length and mode of delivery of the course are:</p> <ul style="list-style-type: none"><li>• 1 year (full time, campus based)</li><li>• 2 years (part-time, campus based)</li></ul>
<b>Part Time Study</b>	Part-time delivery is across two days per week across two years of study.
<b>Location(s) of Delivery</b>	The majority of teaching will be at City campus but on occasion may be at Headingley campus.
<b>Entry Requirements</b>	<p>Admissions criteria are confirmed in your offer letter. Details of how the University recognises prior learning and supports credit transfer are located here: <a href="https://www.leedsbeckett.ac.uk/student-information/course-information/recognition-of-prior-learning/">https://www.leedsbeckett.ac.uk/student-information/course-information/recognition-of-prior-learning/</a></p> <p>Admissions enquiries may be directed to: <a href="mailto:AdmissionsEnquiries@leedsbeckett.ac.uk">AdmissionsEnquiries@leedsbeckett.ac.uk</a>.</p>
<b>Course Fees</b>	Course fees and any additional course costs are confirmed in your offer letter. Fees enquiries may be directed to <a href="mailto:Fees@leedsbeckett.ac.uk">Fees@leedsbeckett.ac.uk</a> .

## Timetable Information

Timetables for Semester one will be made available to students during induction week via:

- The Student Portal (MyBeckett)
- The Leeds Beckett app

Any difficulties relating to timetabled sessions may be discussed with your Course Administrator.

## Policies, Standards and Regulations ([www.leedsbeckett.ac.uk/academicregulations](http://www.leedsbeckett.ac.uk/academicregulations))

There are no additional or non-standard regulations which relate to your course.

## Key Contacts

<b>Your Course Director</b>	Dr Donna Johnson
<b>Your Academic Advisor</b>	Academic Advisors are assigned upon start of the course
<b>Your Course Administrator</b>	Jo Featherby, <a href="mailto:j.featherby@leedsbeckett.ac.uk">j.featherby@leedsbeckett.ac.uk</a>

## Professional Accreditation or Recognition Associated with the Course

### Professional Body: Institute of Biomedical Science (IBMS)

#### Accreditation/ Recognition Summary

IBMS MSc accreditation ensures that a degree course demonstrates that students receive a wide-ranging, research informed scientific education and develop practical skills and experience that employers value.

### Professional Body: Royal Society of Biology

#### Accreditation/ Recognition Summary

Masters Accreditation by the Society recognises programmes that support the development of specific skill sets, competencies and training which will enhance life and health science research. Accredited degrees fulfil the academic component of the Chartered Scientist programme.

The RSB is the leading professional body for the biological sciences in the UK. The Society represents over 18,000 biologists from all areas of the life sciences, as well as over 100 organisations which make up the diverse landscape of biology in the UK and overseas. The RSB offers members unique opportunities to engage with the life sciences and share their passion for biology.

Graduates from an RSB accredited MSc receive one year of free Associate membership of the RSB which will open up networks at a crucial time when applying for jobs. Whichever area of biology you wish to gain a career in, membership will help you:

- Stay up to date with what is happening across the life sciences
- Gain additional recognition for your skills and experience

- Develop your professional network
- Demonstrate your support for the future of biology

## Course Overview

### Aims

The programme of academic study is designed to develop reflective learners able to take responsibility and be accountable for the process of their learning and its practical application. This will lay the foundation for career-long professional development and lifelong learning to support best professional practice and the maintenance of professional and personal standards and aspirations.

This MSc course combines a core of taught modules across the breadth of biochemistry, with a focus on those aspects relevant to its use in the medical and clinical setting. This course will provide practical and lecture sessions in key areas including cell biology and physiology, pharmacogenetics, protein science and metabolic biochemistry as well as modules covering transferable skills such as problem solving, decision making, time management, organisation, communication and team working. The modules taught on this course give students the opportunity to cover core subjects relevant to a career in the field of medical biochemistry and associated areas, maximising their ability to achieve diverse career goals.

In addition to the taught content of this course, the research project offers the opportunity to complete an independent research project and gain experience in a research/lab environment. Research project topics are provided from within each of the core areas and a full list of current topics will be provided when students arrive and will vary year on year.

The aims of the Masters in Medical Biochemistry are:

- To broaden knowledge and understanding of the methods and implications of research in biochemistry and how this relates to a medical/clinical setting
- To enhance specialist knowledge in medical biochemistry and associated disciplines
- To develop professional, research oriented scientists with excellent communications skills and an innovative and flexible approach to problem-solving
- To develop advanced technical scientific skills to provide a basis for a career in scientific research
- To develop independent, reflective lifelong learners

## Course Learning Outcomes

1. Locate, critically evaluate and assess current research in medical biochemistry and relate them to existing theoretical frameworks
2. Plan, carry out and analyse a substantial piece of individual research with the implementation of appropriate research strategies, and communicate the results in a variety of formats, including an oral defence of the work
3. Develop transferrable skills such as problem solving, decision making, time management, organisation, communication and team working
4. Demonstrate the ability to carry out a range of laboratory and analytical techniques and procedures in line with those of a diagnostic or research laboratory
5. Evaluate the potential impact of current developments in medical biochemistry, and propose novel approaches to further the knowledge base
6. Critically appraise the knowledge base from different disciplines to promote innovative solutions to current and relevant issues and demonstrate the ability to formulate research questions

In addition to achieving the course learning objectives, MSc graduates will have developed skills that enable them to:

- Work effectively in teams and independently
- Effectively communicate complex concepts to a range of audiences
- Have an effective working knowledge of key online resources such as Google Scholar, NCBI and Web of Science and organisational websites (e.g. NHS, CDC, PHE)
- Solve problems in an innovative and flexible manner
- Work calmly and efficiently under pressure
- Reflect on their learning and developmental needs

Master's degrees are awarded to students who have demonstrated:

- A systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study or area of professional practice
- A comprehensive understanding of techniques applicable to their own research or advanced scholarship
- Originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline
- Conceptual understanding that enables the student:
  - To evaluate critically current research and advanced scholarship in the discipline
  - To evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses

Typically, graduates will be able to:

- Deal with complex issues both systematically and creatively, make sound judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences
- Demonstrate self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level

- Continue to advance their knowledge and understanding, and to develop new skills to a high level.

And holders will have the qualities and transferable skills necessary for employment requiring:

- The exercise of initiative and personal responsibility
- Decision-making in complex and unpredictable situations
- The independent learning ability required for continuing professional development

## **Teaching and Learning Activities**

### **Summary**

Taught sessions will be predominantly in person though there may be online sessions. Where possible, live sessions will be recorded.

The course is designed to provide a core of learning within the first semester to develop skills associated with the design and execution of an individual research project, along with the first module of a strand of specialist medical biochemistry modules, develop students' knowledge of and skills associated with biochemical research with a focus on its application to medicine and in the clinical setting. In semester two, students complete the specialist taught element of the course and commence work on their laboratory project, which is completed during semester two and over the summer period. As this course is intended for those wishing to pursue a research career, there is considerable emphasis on the development of the research project and the development of scientific communication skills throughout the course.

The core modules provide support for the development of critical and evaluative skills, awareness of current developments in biomedical science and associated disciplines and a structured approach to the planning and execution of a research project. Working with a supervisor/supervisory team, students draft their research protocol and complete the necessary Health and Safety and ethics clearance procedures, plan their work and carry it out methodically over the data collection period. Key milestones are included in the learning process to ensure that students are reflecting on their results to date and refining their experimental approach in light of this. The research project provides students the opportunity to develop the skills needed to plan and run a substantial piece of independent research and to experience a range of science communication methods.

This course proposes actions and targets to help incorporate cutting-edge approaches to learning, teaching and assessment into a re-energised curriculum that fully meets students' needs and prioritises the student learning experience, in line with the University's Learning and Teaching Strategy. Our approach concentrates on several key features:

- It is orientated towards the acquisition of generic key skills in addition to a specific knowledge base, enabling students to become independent lifelong learners
- Teaching and assessment methods facilitate the students' monitoring of their own progression through each module and the course and the effectiveness of this is also monitored
- The course management team are committed to fostering a supportive inclusive learning environment

## Project Arrangements

Students are introduced to the project titles at the start of their course and they then have time to speak with members of staff about their projects. Students then have time to research the projects independently before submitting three choices (from three different supervisors). Students support their first choice by putting together a cover letter detailing their reasons for this choice and how this fits into their career plans. The cover letters are used to allocate students where a project is chosen by multiple students. While staff endeavour to allocate the first choice of project to each student, they are told that they could be allocated any one of their three choices.

Students are allocated to their supervisor following an allocation meeting and then must meet with their supervisor to discuss their project. Detailed preparation for projects is integrated into the Advanced Research Methods module through module content (COSHH, experimental design, ethics etc.) and through the assessment, where they have to put together a research proposal for their project. The proposal must detail methodological and analytical elements, as well as a justification of the project and a suitable background. Students must also submit their risk assessments, COSHH and ethics forms before they are allowed to start their lab work.

Prior to starting in the lab, students undergo a thorough lab induction to introduce them to the requirements of working independently in the lab. Supervisors will carry out training in any required methods and work with the student until they are able to work independently. Regular meetings to discuss progress and issues are held. Students carry out their data collection/lab work throughout semester 2 up until an end date negotiated with their supervisor. Students have the opportunity to submit their thesis for formative feedback, with final submission in early September.

## Your Modules

This information is correct for students progressing through the programme within standard timescales. Students who are required to undertake repeat study may be taught alternate modules which meet the overall course learning outcomes. Details of module delivery will be provided in your timetable. All modules are core.

Full time: Semester one	Semester two
Science Communication (10 credits)	Professional Development (10 credits)
Diagnostic Biochemistry (20c)	Pathology of Immune and Blood Diseases (20c)
Advances in Biochemical Pharmacology (20c)	
Advanced Research Methods (40c)	Advanced Research Methods (40c) continued
MSc Research project (60c) preparation S1, data collection S2	MSc Research project (60c)

Part time: Year 1 Semester 1	Semester 2
Science Communication (10 credits)	Pathology of Immune and Blood Diseases (20 credits)
Advanced Research Methods (40c)	Advanced Research Methods continued
MSc Research project (60c) (preparation S1, data collection S2)	MSc Research project continued
Year 2 Semester 1	Semester 2
Advances in Biochemical Pharmacology (20c)	Professional Development (10c)
Diagnostic Biochemistry (20c)	MSc Research project (data collection S2)

## Assessment Balance and Scheduled Learning and Teaching Activities

The assessment balance and overall workload associated with this course are calculated from core modules. A standard module equates to 200 notional learning hours, comprising teaching, learning and assessment and independent study. Modules may have more than one component of assessment.

### Assessment

Modules are assessed by coursework, examinations and practical skills assessments.

### Workload

Approximate Overall Workload for the Course	
Teaching, Learning and Assessment	325 hours
Independent Study	1475 hours
Total	1800 hours

## Learning Support

If you have a question or a problem relating to your course, your Course Administrator is there to help you. Course Administrators work closely with academic staff and can make referrals to teaching staff or to specialist professional services as appropriate. They can give you a confirmation of attendance letter, and a transcript. You may also like to contact your Course Rep or the Students' Union Advice team for additional support with course-related questions.

## Student Services

If you have any questions about life at University, call into our Student Services Centre at either campus or contact Student Advice directly. This team, consisting of trained officers and advisers are available to support you throughout your time here. They will make sure you have access to and are aware of the support, specialist services, and opportunities our University provides. They also work on a wide range of projects throughout the year all designed to enhance your student experience and ensure you make the most of your time with us. Student Advice are located in the Student Services Centre in the Leslie Silver Building at City Campus and on the ground floor of the Priestley Building at Headingley Campus. The team can also be contacted via email at [studentadvice@leedsbeckett.ac.uk](mailto:studentadvice@leedsbeckett.ac.uk), telephone on 0113 812 3000, or by accessing our online chat link, available on the student homepage.

## Support and opportunities

Within MyBeckett you will see two tabs (Support and Opportunities) where you can find online information and resources for yourselves. The Support tab gives you access to details of services available to give you academic and personal support. These include Library Services, the Students' Union, Money advice, Disability advice and support, Wellbeing, International Student Services and Accommodation. There is also an A-Z of Support Services, and access to online appointments/registration. The Opportunities tab is the place to explore the options you have for jobs, work placements, volunteering, and a wide range of other opportunities. For example, you can find out here how to get help with your CV, prepare for an interview, get a part-time job or voluntary role, take part in an international project, or join societies closer to home.