Programme Specification (Postgraduate)

FOR ENTRY YEAR: 2026/27

Date created: 16/4/2022 **Last amended:** 20/01/2025 **Version no.** 1 **Date approved by EQED:**
Click or tap here to enter text.

1. Programme title(s) and code(s):

MSc in Cancer Cell and Molecular Biology
PG Cert Cancer Cell and Molecular Biology*

Notes

* An award marked with an asterisk is only available as an exit award and is not available for students to register onto.

a) HECOS Code

HECOS Code	%
100948	100%

2. **Awarding body or institution:** University of Leicester

3. a) Mode of study Full-time

b) Type of study Campus-based

4. Registration periods:

MSc in Cancer Cell and Molecular Biology
The normal period of registration is 1 year

The maximum period of registration 2 years

5. Typical entry requirements

Candidates with a first, upper second or lower second class honours degree (or equivalent) in the biological sciences or a related discipline will be considered.

Qualifications recognised as equivalent to a British University lower second-class degree (2.2) will also be considered, as will applicants who do not hold a bioscience degree but have significant and relevant industrial, professional, medical or veterinary experience. Such applicants will be considered on a case-by-case basis.

Students for whom English is not their first language are required to meet the minimum standard set by the University of Leicester (as specified in Senate Regulation 1: Regulations governing minimum entry qualifications and language requirements for taught programmes of study). This includes an IELTS minimum score of 6.5; a TOEFL iBT, minimum score of 90 or a Pearson Test of English (PTE) minimum score of 61.

6. Accreditation of Prior Learning

Accreditation of Prior Learning (APL) for exemption from modules is not accepted on this course

7. Programme aims

At the end of this programme, students should be able to:

- Understand the theory, and apply a wide range, of laboratory techniques used in bioscience research
- Develop expertise with critical analysis of scientific reports and report writing
- Develop group working skills in a range of laboratory and class-based environments
- Develop independent research skills needed for a range of bioscience careers
- Develop skills for sourcing, reviewing and critically assessing the literature relevant to your scientific discipline
- Develop core knowledge and understanding of current literature in your relevant scientific discipline

8. Reference points used to inform the programme specification

- QAA Benchmarking Statement
- Framework for Higher Education Qualifications (FHEQ)
- UK Quality Code for Higher Education
- Education Strategy
- University Assessment Strategy [log-in required]
- University of Leicester Periodic Developmental Review Report
- External Examiners' reports (annual)
- United Nations Education for Sustainable Development Goals
- Student Destinations Data

UNIVERSITY OF LEICESTER

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9. Programme Outcomes

Unless otherwise stated, programme outcomes apply to all awards specified in 1. Programme title(s).

a) Discipline specific knowledge and competencies

i) Knowledge

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate knowledge of the core research evidence and theories of the molecular and genetic basis of cancer.	Synchronous lectures, tutorials, practical classes, demonstrations, directed reading and project supervision.	Problem-solving activities, hands-on basic and advanced laboratory techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).
Students should be able to: Apply the principles of molecular and cell biology techniques to cancer research and the strategies used for cancer treatment.	Synchronous lectures, tutorials, practical classes, demonstrations and project supervision.	Problem-solving activities, hands-on basic and advanced laboratory techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).

ii) Concepts

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type

Students should be able to: Apply skills of critical thinking, interpretation, analysis, evaluation, and explanation our current understanding of the molecular mechanisms underlying the development and treatment of cancer.	Synchronous lectures, tutorials, practical classes, demonstrations, directed reading and project supervision.	Problem-solving activities, hands-on basic and advanced laboratory techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).

iii) Techniques

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Apply a range of molecular and cell biology techniques to investigate biological problems.	Laboratory practical classes, project supervision, lectures and tutorials.	Problem-solving activities, hands-on basic and advanced laboratory techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).
Students should be able to: Apply knowledge of laboratory safety procedures.	Laboratory practical classes, project supervision and lectures.	Demonstrations, online reading, multimedia instructional materials.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).

iv) Critical Analysis

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Laboratory practical classes, project supervision, lectures and tutorials.	Problem-solving activities, hands-on basic and advanced laboratory	Written practical reports, project presentation, project dissertation and

Critically appraise experimental data and critically analyse and review the literature.		techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	end of module examinations (written and computer-based).

v) Presentation

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Present experimental data and participate in scientific discussion.	Lectures, tutorials, project supervision.	Staff-led classroom discussion, writing practical reports, oral presentations/	Written practical reports, project presentation and project dissertation.

vi) Appraisal of evidence

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate competency in data searching, data analysis and data interpretation.	Lectures, workshops, tutorials	Problem-solving activities incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and end of module examinations (written and computer-based).

b) Transferable Skills

i) Research Skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to:	Laboratory practical classes, project supervision, lectures and tutorials.	Problem-solving activities, hands-on basic and advanced laboratory	Written practical reports, project presentation, project dissertation and

Solve biological problems, analyse and interpret data and perform statistical analysis of their experimental data		techniques incorporating demonstrations, online reading, multimedia instructional materials	project laboratory performance, end of module examinations (written and computer-based).
Students should be able to: Apply a range of molecular and cell biology techniques to investigate biological problems.	Laboratory practical classes, project supervision, lectures and tutorials.	Problem-solving activities, hands-on basic and advanced laboratory techniques incorporating demonstrations, online reading, multimedia instructional materials, literature searching and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance, end of module examinations (written and computer-based).

ii) Communication skills

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Write scientific reports competently, devoid of plagiarism, and deliver an effective oral presentation of their data.	Lectures, tutorials	Problem-solving activities incorporating demonstrations, online reading, multimedia instructional materials and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance.

iii) Data Presentation

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Effectively use statistical tests, perform image analysis and use presentation and graphical software for data presentation.	Lectures, tutorials, laboratory practical classes and project supervision.	Problem-solving activities incorporating demonstrations, online reading, multimedia instructional materials and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance.

iv) Information Technology

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate competency in the use of general computing, standard and specialised computing software.	Lectures, tutorials, project supervision and workshops.	Problem-solving activities incorporating demonstrations, online reading, multimedia instructional materials and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance.

v) Problem Solving

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate the ability to solve both general biological and laboratory-based mathematical problems.	Lectures, tutorials, project supervision and workshops.	Problem-solving activities incorporating demonstrations, online reading, multimedia instructional materials and self-assessment knowledge tests.	Written practical reports, project presentation, project dissertation and project laboratory performance.

vi) Working relationships

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Demonstrate the capacity to manage a project, time-management and organizational skills and be able to work effectively in a group/team.	Laboratory practical classes, tutorial and project supervision.	Group-based laboratory work	Written practical reports, project presentation, project dissertation and project laboratory performance.

vii) Managing learning

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type

Students should be able to: Have confidence in their ability to develop new practical skills, manage information and develop specialization and interests.	Lectures, practical classes, Library and IT skills workshops and project supervision.	Laboratory practicals incorporating demonstrations, directed reading, and multimedia instructional materials.	Written practical reports, project presentation, project dissertation and project laboratory performance.

viii) Career Management

Intended learning Outcome	Teaching methods	Learning Activities	Assessment Type
Students should be able to: Produce a professional cv, write applications, give presentations and be confident in applying for positions for either employment or further study.	Workshops by the Career Development Services unit, careers advice by personal tutors and project supervisors.	Writing, interview skills, case studies.	Student feedback at SSC's and student destination surveys. Project presentations

10. Progression points

This programme follows the standard Scheme of Progression set out in Senate Regulations – see the version of *Senate Regulation 6 governing postgraduate programmes* relevant to the year of entry.

In cases where a student has failed to meet a requirement to progress he or she will be required to withdraw from the course.

The following module on this programme must be passed at the first attempt:

- MB7009 - Biomolecular Masters Research Project

The Board of Examiners may, at its discretion, permit students to resubmit one or more assessed coursework elements of this module if doing so would enable them to achieve an overall pass mark for the module by improving their mark in individual coursework components. However, there are no resit opportunities permitted for missed non-mitigated practical elements.

a) Course transfers

n/a

11. Criteria for award and classification

This programme follows the standard scheme of postgraduate award and classification set out in Senate Regulations – see the version of *Senate Regulation governing postgraduate programmes* relevant to the year of entry.

12. Special features

Through teaching on this programme, you will progressively develop your laboratory and critical analysis skills. You will begin by learning basic laboratory techniques and gradually progress to in-depth experimental approaches such as gene editing. In doing so, you will acquire the skills needed to become an independent laboratory researcher, irrespective of your initial level of laboratory experience.

The programme is designed to give you group working opportunities through the various taught laboratory, workshop and research project elements that are embedded in the programme. Importantly, the 6-month laboratory project will give you the opportunity to experience real research by working with a research group of your choice.

By enrolling of this programme, you will become part of our wider bioscience MSc cohort, providing opportunities to learn and socialize alongside your peers on other MSc programmes.

12a. Research-inspired Education

Students on this programme will advance through the four quadrants of the University of Leicester Research-inspired Education Framework as follows:

RiE Quadrant	Narrative
	This programme provides programme-specific practical experience and knowledge. This also includes critical thinking, data analysis and independent research skills with additional interaction with current literature and ongoing research in the University of Leicester.
Research-briefed Bringing staff research content into the curriculum.	Research-briefed: Lectures are taught by staff actively involved in research. These may contain current research outcomes or techniques widely used in research. Proficiency in lab skills is examined by practical assessment. Departmental seminars and subject-specific guest speakers add to the research content of the curriculum.
Research-based Framed enquiry for exploring existing knowledge.	Research-based: Students use active learning to explore the concepts introduced in the lectures and using some of the techniques in laboratory/computer-based practicals to address a research question. The students analyze the results of their own experiments to generate written reports and compare outcomes to published literature.
Research-oriented Students critique published research content and process.	Research-oriented: A knowledge of the structure of scientific publications is gained and research is critiqued. Current published research is used to construct a research proposal and/or construct the background to their project dissertation, alongside research and professional skills and regulatory considerations.
Research-apprenticed Experiencing the research process and methods; building new knowledge.	Research-apprenticed: The students will design and undertake research outlined in their proposals as part of a full-time research project. During this time students will appreciate that research is collaborative and cumulative. Students are invited to attend and be involved in lab meetings and departmental seminars to experience the research process.

As part of studying at a research-intensive university, students on this programme have the following extra or co-curricular opportunities available to them to gain exposure to research culture:

Departmental, University and external speaker seminars are an important way that scientists disseminate their research outcomes. Students are invited to attend these seminars to experience the research process. Many students attend the seminars which help them to see the breadth of research in their subject area. The student research projects are embedded into research groups where students are surrounded by other research staff with whom they can discuss the current research being performed and engage with the full research process and environment.

Teaching on this programme will be research-informed (it draws consciously on systematic inquiry into the teaching and learning process itself) in the following way:

The School supports all staff involved in teaching to gain an accredited Higher Education teaching qualification, in which they demonstrate their use of teaching theory to support their own practice and reflect on their current teaching and continuing professional development. Programme module convenors attend a seminar group that supports teaching activities across the school. This supports educational best practice with talks from external speakers and sharing of evaluations and projects on teaching practice.

13. Indications of programme quality

Student feedback
External Examiners reports
Annual development review

14. External Examiner(s) reports

The details of the External Examiner(s) for this programme and the most recent External Examiners' reports for this programme can be found at exampapers@Leicester [log-in required].

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Appendix 1: Programme structure (programme regulations)

The University regularly reviews its programmes and modules to ensure that they reflect the current status of the discipline and offer the best learning experience to students. On occasion, it may be necessary to alter particular aspects of a course or module.

MSc in Cancer Cell and Molecular Biology

Level 7/Year 1 Delivery Year 2026/27 Intake Month January Mode of Study Full Time Structure

Credit breakdown

Status	Year long	Semester 1	Semester 2
Core	n/a	60 credits	120 credits
Optional	n/a	n/a	n/a

180 credits credits in total

Core modules

Delivery period	Code	Title	Credits
Semester 2	MB7008	Core Laboratory techniques	30 credits
Semester 2	MB7003	Research Methods in Cancer Biology	15 credits
Semester 2	MB7004	Advanced Methods in Cancer Biology	15 credits
Spring Term	MB7009	Biomolecular Masters Research Project	120 credits

This is an indicative list of option modules and not definitive of what will be available. Option module choice is also subject to availability, timetabling, student number restrictions and, where appropriate, students having taken appropriate pre-requisite modules.

Appendix 2: Module specifications

See postgraduate module specification database (Note - modules are organized by year of delivery) [login-required]