Programme Specification: Post Graduate Taught

For Academic Year 2025/26

1. Course Summary

Names of programme and award title(s)	MSc Biotechnology
Award type	Taught Masters
Mode of study	Full-time
Framework of Higher Education Qualification (FHEQ) level of final award	Level 7
Normal length of the programme	1 year
Maximum period of registration	The normal length as specified above plus 3 years
Location of study	Keele Campus
Accreditation (if applicable)	N/A
Regulator	Office for Students (OfS)
Tuition Fees	**UK students:** Full-time fee for 2025/26 is £9,100 **International students:** Full-time fee for 2025/26 is £17,700

How this information might change: *Please read the important information at http://www.keele.ac.uk/student-agreement/. This explains how and why we may need to make changes to the information provided in this document and to help you understand how we will communicate with you if this happens.*

** These fees are for new students. We reserve the right to increase fees in subsequent years of study by an inflationary amount. Please refer to the accompanying Student Terms & Conditions for full details. Further information on fees can be found at http://www.keele.ac.uk/studentfunding/tuitionfees/*

2. Overview of the Programme

The Keele MSc Biotechnology programme provides you with study, to an advanced level, into the theoretical, practical and business aspects of biotechnology, with a focus on our key strengths of health and environmental biotech. You will explore core concepts in understanding the breadth of biotechnology and how it can be used to find new solutions to societal grand challenges, you will engage in the multidisciplinary module of scientific leadership and innovation with students on different programmes, followed by focussed appraisal of cutting-edge biotechnology applications relating to interventions in health, food security, diagnostics and therapeutics. Staff from different research themes will contribute to the programme (e.g. insect vectors of disease, infectious diseases, glycosciences, immunology and autoimmune diseases etc). Building from this you will develop the business and innovation skills required to identify inventive steps, understand and appraise intellectual property and navigate exploitation opportunities and pathways. You will also propose and appraise your own biotechnological solutions to human nutrition health and disease and your research and development strategy in the context of associated regulatory and ethical frameworks and pitch your ideas with potential for innovation. You will also conduct your own research project, with placement opportunities, demonstrating the application of your skills and knowledge.

Alongside the core learning programme of the course, you will also develop enhanced skills in the critical analysis

and evaluation of primary literature in biotechnology, as well as higher-level communications skills, critical thinking, innovation and problem solving. The course will also develop advanced skills in the practical study of biotechnology with a focus on key research strengths at Keele including health (vector control, human therapeutics) and environmental biotech (agriculture, pest control and food security). This will also be supported through the development of enhanced skills in the use of computational tools to support biotechnology research, innovation and entrepreneurship. Development of enhanced practical and analytical skills will culminate in the completion of an individual research project, further developing independent research skills for a career in biotechnology.

Optional placements could support practical experience and apply theoretical knowledge in a real-world setting, build industry connections and help to develop the kinds of soft skills employers value including teamwork, decision-making and time management.

3. Aims of the programme

The broad aims of the programme are to enable you to:

- develop knowledge and understanding of advanced theoretical perspectives, methodological approaches and current research topics in biotechnology;
- explore and critique advances in biotechnology and the application of these technologies in tackling societal grand challenges such as antimicrobial resistance (AMR), food security, global warming etc;
- develop critical awareness of ethical and regulatory frameworks applied to biotechnology and innovation, including business planning;
- support student autonomy and innovation through the demonstration of originality in developing and applying new ideas or concepts;
- integrate complex knowledge and theories and apply computational, practical and analytical skills in the design and conduct of a research project;
- promote and sustain communities of practice that share best practice, encourage a multi-disciplinary approach to problem solving and to develop extensive communication skills, particularly an ability to convey complex, underpinning knowledge alongside personal conclusions and rationale to specialist and non-specialist listeners;
- engage with a wide range of learning activities and a diverse assessment in order to develop employability and academic skills to an advanced level, ensuring both professional and academic attainment.

At the end of the programme, you will have the option of undertaking an additional placement year, supporting you in further developing practical, analytical and entrepreneurial skills in a real-world setting. Here you will apply theoretical knowledge and skills gained from the programme, build industry connections and further develop key employability skills including teamwork, decision-making and time management.

4. What you will learn

The intended learning outcomes of the programme (what students should know, understand and be able to do at the end of the programme), can be described under the following headings:

- Subject knowledge and understanding
- Subject specific skills
- Intellectual skills
- Key or transferable skills (including employability skills)

Subject knowledge and understanding

Successful students will be able to:

- existing, novel and emerging biotechnology approaches across different industry sectors;
- the critical evaluation of historical and current evidence, theories, and concepts relevant to the field of biotechnology and the regulatory frameworks which apply;
- the fundamental principles of biotechnology, including the core biochemical, physiological, molecular biology and cell signalling principles to an advanced level related to the focus of biotech in the environment, health and disease;
- the interpretation, analysis and manipulation of biological data, including sequence data, molecular structures and interactions of molecules of life;
- the applications of biotechnology as solutions to societal "grand challenges" such as global warming, infectious disease cancer etc;
- the principles of biobusiness, regulatory frameworks and compliance, risk analysis and quality assurance;
- freedom to operate, intellectual property, patent strategies, branding, copyright, disclosure, and good ethical business practices;
- advanced computational tools and their application in biotechnology.

Subject specific skills

Successful students will be able to:

- interpret the fundamental principles relating to the central dogma of molecular biology;
- work safely and responsibly in the laboratory with awareness of standard procedures such as risk assessment, COSHH and relevant health and safety regulations;
- attain competence in a range of laboratory techniques to an advanced level, employing a variety of methods (including computational studies related to bioinformatics) in investigating, acquiring, recording and analysing information relevant to biotechnology;
- evaluate the intersection of science, society, policy and business practices;
- critically evaluate scientific or market literature and complex biotechnology methodologies;
- demonstrate innovation, and synthesise exploitable ideas based on sound scientific principles in the execution of a business plan and elevator pitch.

Intellectual skills

Successful students will be able to:

- prepare, process, interpret and present data and where appropriate apply statistical techniques;
- manage complex projects using project management fundamentals;
- obtain, analyse and summarise several lines of subject-specific evidence to formulate and test hypotheses, with critical interpretation of quantitative and qualitative research findings;
- apply appropriate academic practice to ensure adherence to principles of academic and research integrity;
- critically assess the merits of contrasting theories, paradigms, concepts or principles and develop reasoned arguments.

Key or transferable skills (including employability skills)

Successful students will be able to:

- apply a global perspective to their work taking into account diverse societal, environmental and economic contexts;
- communicate effectively using different formats to a range of stakeholders including academic, investor and lay audiences;
- develop their persuasive skills using scientific data and a knowledge of market demand in the context of regulatory frameworks and with an awareness of potential pain points;
- demonstrate creativity and strategic thought when considering the potential of biotechnology solutions for societal problems;
- demonstrate leadership and influence when working individually or within teams;
- demonstrate innovation and originality in the understanding and application of new knowledge;
- demonstrate self-direction and dedication to independent learning as a self-critical learner, developing greater autonomy in managing and undertaking research tasks;
- prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually;
- communicate effectively through written reports, critical reviews, oral and poster presentations;
- work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others.

Keele Graduate attributes

The Keele Graduate Attributes are the qualities (skills, values and mindsets) which you will have the opportunity to develop during your time at Keele through both the formal curriculum and also through co- and extra-curricular activities (e.g., work experience, and engagement with the wider University community such as acting as ambassadors, volunteering, peer mentoring, student representation, membership and leadership of clubs and societies). Our Graduate Attributes consist of four themes: **academic expertise, professional skills, personal effectiveness, and social and ethical responsibility.** You will have opportunities to engage actively with the range of attributes throughout your time at Keele: through your academic studies, through self-assessing your own strengths, weaknesses, and development needs, and by setting personal development goals. You will have opportunities to discuss your progress in developing graduate attributes with, for example, Academic Mentors, to prepare for your future career and lives beyond Keele.

5. How is the programme taught?

Diversity, flexibility and inclusivity is at the heart of our Education Strategy. Your Student Voice helps us to shape what we do and we include students, local employers and professional bodies in our decision-making process.

The delivery of our programme will include the following types of activities:

Digital learning resources. These include provision of short videos and directed reading, aligned with key learning outcomes and supporting campus-based lectures, tutorials and workshops focused on active learning through application of content as part of a 'flipped classroom' approach to delivery. This also gives you more flexibility to decide how, when and where to study, with the opportunity to submit questions based on the material anonymously in advance of taught sessions.

Campus-based tutorials and workshops. Often designed to support digital resources. Tutorials and workshops help promote social learning, develop a sense of community and give you an opportunity to deepen your understanding of core issues, ask questions, reflect on your own learning, and discuss content with other students and your tutors. Other workshops will also support data analysis and report writing, including IT literacy, as well as supporting you in developing skills in computational and bioinformatic analysis, including in context to drug-target binding.

Case-based learning (CBL) tutorials. Students are expected to play a full part and, often, to lead these discussions. In particular, case-based learning (CBL) is a student-centred style, based on case studies that help you contextualise content taught across the course. These sessions will also develop skills such as leadership, communication and evidence-based problem solving.

Live, online tutorials, workshops and drop-in sessions. Often used to host plenary sessions. These plenary sessions are optional, added value and may cover topics common to all students such as career planning and general Q&A sessions to support the student voice etc.

Independent study. Based on directed reading from text books, research papers and research reviews to support your learning of the core material and deepen your understanding of the subject.

Extended research project. This will further develop your research skills in the critical evaluation of scientific literature and an extended research project will give you the opportunity to design and conduct an in-depth research project in an area of Biotechnology, including formulating a complete research strategy and develop skills in a range of advanced laboratory and/or computational methodologies.

In semesters 1 and 2, modules are structured so that taught sessions are normally delivered across two days of the working week. It is expected that students will engage in independent study for a further three days a week. This consolidation of teaching will allow greater flexibility in terms of how and when you want to study. In the final stage of your programme you will complete an independent student project. The contact arrangements for this will vary from project-to-project, but, ordinarily will require full-time attendance throughout semester 3.

Apart from these formal activities, students are also provided with regular opportunities to talk through particular areas of difficulty, and any special learning needs they may have, with their Academic Mentors or module lecturers on a one-to-one basis.

6. Teaching Staff

University life is not just about the content of your degree. It is also an opportunity to network, to speak to people working in fields that excite you. Here in Life Sciences, you will meet a diverse range of staff that you can see by using the following link: https://www.keele.ac.uk/lifesci/people/.

We also invite speakers from the School of Life Sciences, from other Schools within the University and from Industry. Our staff include world-leading researchers, and experts in learning and teaching. As part of their training, all staff complete post-graduate courses on learning and teaching. Some take this to Masters level and beyond, choosing to specialise in pedagogic research to ensure that our programmes are taught to the very highest standards. Members of the School of Life Sciences hold recognised or accredited teaching qualifications and the majority are Fellows or Associates of the Higher Education Academy (HEA), whilst a number are Senior Fellows of the HEA. Several Life Sciences' staff members have been awarded Keele's prestigious Excellence in Teaching and Learning awards and several were awarded a Keele SU Education Award for personal tutoring.

The University will attempt to minimise changes to our core teaching teams, however, delivery of the programme depends on having a sufficient number of staff with the relevant expertise to ensure that the programme is taught to the appropriate academic standard.

Staff turnover, for example where key members of staff leave, fall ill or go on research leave, may result in changes to the programme's content. The University will endeavour to ensure that any impact on students is limited if such changes occur.

7. What is the structure of the programme?

The academic year runs from September to September and is divided into three semesters. The number of weeks of teaching will vary from course to course, but you can generally expect to attend scheduled teaching sessions between the end of September and mid- December (semester one), and from mid-January to the end

of April (semester two), with the research project being completed in semester three (May-July). Our degree courses are organised into modules. Each module is usually a self- contained unit of study and each is usually assessed separately with the award of credits on the basis of 1 credit = 10 hours of student effort.

A summary of the module structure for the programme is provided in the table below.

Year	Compulsory	Optional	
		Min	Max
Level 7	180	0	0

Module Lists

Level 7

Compulsory modules	Module Code	Credits	Period
Scientific Leadership and Innovation	LSC-40123	30	Semester 1
Concepts in Biotechnology	LSC-40147	30	Semester 1
Invention, Strategy and Enterprise in Bio-business	LSC-40145	30	Semester 2
Biotechnology: Interventions, diagnostics and therapeutics	LSC-40149	30	Semester 2
Research Project	LSC-40131	60	Semester 3

Learning Outcomes

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Level 7

The table below sets out what students learn in the programme and the modules in which that learning takes place. Details of how learning outcomes are assessed through these modules can be found in module specifications.

Subject Knowledge and Understanding	
Learning Outcome	**Module in which this is delivered**
Existing, novel and emerging biotechnology approaches across different industry sectors	Concepts in Biotechnology - LSC-40147 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149
The critical evaluation of historical and current evidence, theories, and concepts relevant to the field of biotechnology and the regulatory frameworks which apply.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Concepts in Biotechnology - LSC-40147 Scientific Leadership and Innovation - LSC-40123
The fundamental principles of biotechnology, including the core biochemical, physiological, molecular biology and cell signalling principles to an advanced level related to the focus of biotech in the environment, health and disease;	Invention, Strategy and Enterprise in Bio-business - LSC-40145 Research Project - LSC-40131 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Concepts in Biotechnology - LSC-40147
The interpretation, analysis and manipulation of biological data, including sequence data, molecular structures and interactions of molecules of life.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Research Project - LSC-40131 Concepts in Biotechnology - LSC-40147
The applications of biotechnology as solutions to societal "grand challenges" such as global warming, infectious disease cancer etc.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Concepts in Biotechnology - LSC-40147 Invention, Strategy and Enterprise in Bio-business - LSC-40145
The principles of bio business, regulatory frameworks and compliance, risk analysis and quality assurance.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Scientific Leadership and Innovation - LSC-40123
Freedom to operate, intellectual property, patent strategies, branding, copyright, disclosure, and good ethical business practices.	Scientific Leadership and Innovation - LSC-40123 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149
Advanced computational tools and their application in biotechnology	Research Project - LSC-40131 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Concepts in Biotechnology - LSC-40147

Subject Specific Skills	
Learning Outcome	**Module in which this is delivered**
Interpret the fundamental principles relating to the central dogma of molecular biology	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Concepts in Biotechnology - LSC-40147
Work safely and responsibly in the laboratory with awareness of standard procedures such as risk assessment, COSHH and relevant health and safety regulations.	Research Project - LSC-40131
Attain competence in a range of laboratory techniques to an advanced level, employing a variety of methods (including computational studies related to bioinformatics) in investigating, acquiring, recording and analysing information relevant to biotechnology.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Research Project - LSC-40131
Evaluate the intersection of science, society, policy and business practices	Scientific Leadership and Innovation - LSC-40123 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Concepts in Biotechnology - LSC-40147
Critically evaluate scientific or market literature and complex biotechnology methodologies.	Scientific Leadership and Innovation - LSC-40123 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149
Demonstrate innovation, and synthesise exploitable ideas based on sound scientific principles in the execution of a business plan and elevator pitch	Invention, Strategy and Enterprise in Bio-business - LSC-40145 Scientific Leadership and Innovation - LSC-40123

Intellectual skills	
Learning Outcome	**Module in which this is delivered**
Prepare, process, interpret and present data and where appropriate apply statistical techniques.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Research Project - LSC-40131 Invention, Strategy and Enterprise in Bio-business - LSC-40145 Scientific Leadership and Innovation - LSC-40123
Manage complex projects using project management fundamentals.	Invention, Strategy and Enterprise in Bio-business - LSC-40145
Obtain, analyse and summarise several lines of subject-specific evidence to formulate and test hypotheses, with critical interpretation of quantitative and qualitative research findings.	All modules
Apply appropriate academic practice to ensure adherence to principles of academic and research integrity	All modules

Key or Transferable Skills (graduate attributes)	
Learning Outcome	**Module in which this is delivered**
Apply a global perspective to their work taking into account diverse societal, environmental and economic contexts.	Invention, Strategy and Enterprise in Bio-business - LSC-40145 Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Scientific Leadership and Innovation - LSC-40123 Concepts in Biotechnology - LSC-40147
Communicate effectively using different formats to a range of stakeholders including academic, investor and lay audiences.	Invention, Strategy and Enterprise in Bio-business - LSC-40145 Research Project - LSC-40131 Scientific Leadership and Innovation - LSC-40123
Develop their persuasive skills using scientific data and a knowledge of market demand in the context of regulatory frameworks and with an awareness of potential pain points.	Scientific Leadership and Innovation - LSC-40123 Invention, Strategy and Enterprise in Bio-business - LSC-40145
Demonstrate creativity and strategic thought when considering the potential of biotechnology solutions for societal problems.	Concepts in Biotechnology - LSC-40147 Invention, Strategy and Enterprise in Bio-business - LSC-40145
Demonstrate leadership and influence when working individually or within teams.	Invention, Strategy and Enterprise in Bio-business - LSC-40145
Demonstrate innovation and originality in the understanding and application of new knowledge;	Invention, Strategy and Enterprise in Bio-business - LSC-40145 Concepts in Biotechnology - LSC-40147 Scientific Leadership and Innovation - LSC-40123
Demonstrate self-direction and dedication to independent learning as a self-critical learner, developing greater autonomy in managing and undertaking research tasks;	Research Project - LSC-40131
Prepare, process, interpret and present data, using appropriate qualitative and quantitative techniques, statistical programmes, spreadsheets and programs for presenting data visually	All modules
Communicate effectively through written reports, critical reviews, oral and poster presentations	Research Project - LSC-40131
Work with others to identify and achieve collaborative goals and responsibilities and perform in a respectful manner that is accepting of the viewpoints and opinions of others.	Biotechnology: Interventions, diagnostics and therapeutics - LSC-40149 Invention, Strategy and Enterprise in Bio-business - LSC-40145

8. Final and intermediate awards

Masters Degree in Biotechnology	180 credits	You will require at least 150 credits at Level 7
Postgraduate Diploma	120 credits	You will require at least 90 credits at Level 7
Postgraduate Certificate	60 credits	You will require at least 45 credits at Level 7

9. How is the Programme Assessed?

This programme has a rich and varied assessment strategy to ensure development of key employability and academic skills. This will provide you the opportunity to demonstrate both professional and academic attainment.

Assessment design is largely driven by a number of key principles which include: promotion of independent learning, student autonomy and choice, responsibility for personal learning, and development of innovation and originality through a range of authentic and applied assessment types. It will include a balance of individual and group tasks, the latter will develop your teamwork skills to achieve collaborative goals.

For example, the Concepts in Biotechnology, Biotechnology Interventions, Diagnostics and Therapeutics and the Invention, Strategy and Enterprise, have a mix of group and individual tasks. You will need to critically appraise the current literature, and integrate your new knowledge into a structured argument to back-up your opinions. You will critique a biotechnological intervention, diagnostic or therapeutic addressing an unmet clinical need in health and disease based on sound scientific principles. In Invention, Strategy and Enterprise you will have to perform risk assessments of a biotechnology application, but you will also take part in a group tasks where you explore the scientific and commercial potential of a biotechnology application and use effective communication skills to convince potential investors in your biotechnology idea in the field of health and disease. This will test your persuasive communication skills, and your grasp of scientific and business strategy.

Solving problems in a time-limited fashion reflect how, in the work environment, we may be required to solve problems in a relatively short amount of time. Your individual and group tasks will help you to further evidence your understanding of pre-set problems within specialist topics areas and consolidate your learning, evidencing your ability to tackle problems in a time constrained, and independent manner.

The semester three **extended research project**, including an assessed element of personal engagement, represents the culmination of the programme, providing an opportunity for you to put together a number of key learning outcomes from across the programme and to take true responsibility for the formulation, management, execution, and final interpretation and presentation of a new piece of scientific research in an area of biotechnology related to health and disease. You will also communicate the main findings of your research to your peers and tutors at a **conference presentation** and **research poster**.

A full assessment brief is available via the Keele Learning Environment (KLE), specifying clear assessment criteria. All summative forms of assessment are fully supported by a variety of formative assessment activities and academic guidance.

Marks are awarded for summative assessments designed to assess your achievement of learning outcomes. You will also be assessed formatively to enable you to monitor your own progress and to assist staff in identifying and addressing any specific learning needs. Feedback, including guidance on how you can improve the quality of your work, is also provided on all summative assessments within three working weeks of submission, unless there are compelling circumstances that make this impossible, and more informally in the course of tutorial and seminar discussions.

10. Accreditation

This programme does not have accreditation from an external body.

11. University Regulations

The University Regulations form the framework for learning, teaching and assessment and other aspects of the student experience. Further information about the University Regulations can be found at: http://www.keele.ac.uk/student-agreement/

If this programme has any exemptions, variations or additions to the University Regulations these will be detailed in an Annex at the end of this document titled 'Programme-specific regulations'.

12. What are the typical admission requirements for the Programme?

See the relevant course page on the website for the admission requirements relevant to this programme: https://www.keele.ac.uk/study/

Applications must normally possess a BSc Honours degree of 2:2 or higher in a relevant subject, such as Biochemistry, Biomedical Science, Pharmacology, Physiology or Neuroscience, or a closely related subject. This is in line with the 50% pass mark required for successful completion of this programme. Applicants with an equivalent qualification in related subject areas, or a professional qualification of equivalent status and associated work experience will be considered on a case-by-case basis and may require a minimum of a 2:1 or higher (or equivalent), depending on degree of relevance.

Applicants who have not had their secondary or tertiary education through the medium of English are expected to have attained the equivalent of an IELTS score of at least 6.5 with a minimum of 6.0 in all subtests.

13. How are students supported on the programme?

The School of Life Sciences operates an open-door policy. This means that you can contact any of our staff via

email to request a meeting or discus any problem that you may be experiencing.

In addition to the open door policy, you can also contact the following people across Life Sciences for help and support:

- Programme Director or Director of Education for programme-, discipline- or School-related issues
- Module Manager for module-related issues
- Demonstrators for help during labs
- Academic mentors for academic help and guidance
- Student Experience and Support Officers for more personal or pastoral help
- Early Resolution Officer to help advocate for you, for example, if you would like to raise a complaint
- Student Voice are a group of students from your programme that can advocate for you to the School

Student Services also offer a comprehensive range of specialist services that help you at any time from enrolment to graduation. The following link will provide more information:
https://www.keele.ac.uk/students/studentservices/

14. Learning Resources

This programme is taught in modern teaching rooms across the University, almost all of which are equipped with computers, internet access and electronic whiteboards or projection equipment. Rooms may be arranged either in traditional lecture format or more informally to allow you to work together in small groups. IT suites will be used for running workshops and tutorials to support development of key skills in data analysis, as well as advanced computational tools utilising bioinformatics and other (macro-) molecular databases for structural studies in ligand-target binding.

Practical sessions are held in dedicated teaching laboratories within the School of Life Sciences, which over recent years have been completely refitted, providing modern and well-equipped facilities supporting delivery of a diverse practical programme. The extended research project will be held in one of our state-of-the-art research laboratories working with a lead academic supervisor.

Further learning resources available to you on the Programme also include:

- An extensive collection of books and journals held in the University Library on campus, or the health library situated at the University Hospital of North Staffordshire.
- Access to a comprehensive range of ebooks, journals and published papers all available online
- The Keele Learning Environment (KLE) which provides easy access to a wide range of learning resources including lecture materials and other guidance/supporting resources, and Microsoft Teams for further content development and to facilitate live and interactive discussions.

15. Other Learning Opportunities

Within the School of Life Sciences there are a wide range of seminar opportunities that attract a number of expert researchers both locally (e.g., Keele University, hospitals or research groups) and internationally from around the world. All MSc Biotechnology students are encouraged to take full advantage of the opportunities these seminars provide and are more than welcome to attend as many of these sessions as you feel to be appropriate. Such seminars are widely advertised around Life Sciences and may be published via the KLE noticeboard. Optional placements could provide you with a unique opportunity to increase your employability and gain real-world experience in your chosen field of study.

16. Additional Costs

Students who choose to undertake a placement will be responsible for travel costs for their placement.

As to be expected there will be additional costs for inter-library loans and potential overdue library fines, print and graduation. We do not anticipate any further costs for this programme.

17. Quality management and enhancement

The quality and standards of learning in this programme are subject to a continuous process of monitoring, review and enhancement.

- The School Education Committee is responsible for reviewing and monitoring quality management and enhancement procedures and activities across the School.
- Individual modules and the programme as a whole are reviewed and enhanced every year in the annual programme review which takes place at the end of the academic year.
- The programmes are run in accordance with the University's Quality Assurance procedures and are subject to periodic reviews under the Revalidation process.

Student evaluation of, and feedback on, the quality of learning on every module takes place every year using a variety of different methods:

- The results of student evaluations of all modules are reported to module leaders and reviewed by the Programme Committee as part of annual programme review.
- Findings related to the programme from the annual Postgraduate Taught Experience Survey (PTES), and from regular surveys of the student experience conducted by the University, are subjected to careful analysis and a planned response at programme and School level.
- Feedback received from representatives of students on the programme is considered and acted on at regular meetings of the Student Staff Voice Committee.

The University appoints senior members of academic staff from other universities to act as external examiners on all programmes. They are responsible for:

- Approving examination questions
- Confirming all marks which contribute to a student's degree
- Reviewing and giving advice on the structure and content of the programme and assessment procedures

Information about current external examiner(s) can be found here:
http://www.keele.ac.uk/qa/externalexaminers/currentexternalexaminers/

18. The principles of programme design

The programme described in this document has been drawn up with reference to, and in accordance with the guidance set out in, the following documents:

a. UK Quality Code for Higher Education, Quality Assurance Agency for Higher Education: http://www.qaa.ac.uk/quality-code
b. QAA Subject Benchmark Statement: Biomedical Sciences (2023): https://www.qaa.ac.uk/docs/qaa/sbs/sbs-biomedical-science-and-biomedical-sciences-23.pdf?sfvrsn=1677a881_4
c. QAA Characteristics Statement - Master's Degree (2020): https://www.qaa.ac.uk//en/quality-code/characteristics-statements/characteristics-statement-masters-degrees
d. Keele University Regulations and Guidance for Students and Staff: http://www.keele.ac.uk/regulations

19. Annex - Programme-specific regulations

Programme Regulations: MSc Biotechnology

Final Award and Award Titles	MSc Biotechnology
Intermediate Award(s)	Postgraduate Diploma Postgraduate Certificate
Last modified	n/a
Programme Specification	https://www.keele.ac.uk/qa/programmespecifications

The University's Academic Regulations which can be found on the Keele University website (https://www.keele.ac.uk/regulations/)[1] apply to and regulate the programme, other than in instances where the specific programme regulations listed below over-ride them. These programme regulations list:

- *Exemptions* which are characterised by the omission of the relevant regulation.
- *Variations* which are characterised by the replacement of part of the regulation with alternative wording.
- *Additional Requirements* which set out what additional rules that apply to students in relation to this programme.

The following **exemptions, variations** and **additional requirements** to the University regulations have been checked by Academic Services and have been approved by the Faculty Education Committee.

A) EXEMPTIONS

The clause(s) listed below describe where an exemption from the University's Academic Regulations exists:

For the whole duration of their studies, students on this Programme are exempt from the following regulations:

- **No exemptions apply.**

B) VARIATIONS

The clause(s) listed below describe where a variation from the University's Academic Regulations exists:

Variation 1: No variations apply

C) Additional Requirements

The programme requirements listed below are in addition to the University's Academic Regulations:

Additional requirement 1: Laboratory, lecture and tutorial classes

1.1 Wearing a laboratory coat is compulsory in all classes held in laboratories. Students will not be allowed to attend the laboratory class without a laboratory coat.

1.2 Students must wear appropriate clothing in the laboratories, including sensible footwear. Closed shoes and low heels should be worn. This is to avoid tripping and to protect the feet in the case of spillages. Long hair must be tied back. Students who are inappropriately dressed may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.

1.3 Students who arrive late to laboratory classes may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause.

1.4 Students who display serious misconduct in any class may, at the discretion of the member of staff in charge, be excluded from the class and recorded as being absent without good cause. Serious misconduct involves wilful damage to property, injury or threat to persons, or persistent disruption of teaching.

1.5 The unauthorised use of mobile phones or headphones is not permitted in any class.

1.6 Students are not permitted to record, video or photograph taught sessions or meetings with staff, except with the permission in advance of the staff concerned. Permission will be given where this is part of an approved disability adjustment. Any permission to record, video or photograph is for personal use only and all recordings, videos or photographs remain the property of the presenter and Keele University.

1.7 Students are required to read and follow the procedures in the School of Life Sciences Safety Handbook, which is available from the Life Science Noticeboard on the KLE.

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[1] References to University Regulations in this document apply to the content of the University's Regulatory Framework as set out on the University website here https://www.keele.ac.uk/regulations/.

Version History

This document

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Previous documents

Version No	Year	Owner	Date Approved	Summary of and rationale for changes