

MBiol

# Microbiology and Infection

UCAS code C503

Entry requirements	Study mode	Duration	Apply by: <b>14 January 2026</b>
A level: ABB	Full-time	4 years	Starts on: <b>28 September 2026</b>

## About this course

Microbiology is the study of microorganisms such as bacteria, viruses and parasites. You will study aspects of microbiology including the identification of microorganisms, how they are transmitted, how they interact with the host in disease and how they can be controlled.

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## Introduction

The Master of Microbiology and Infection (MBiol) is a four-year programme, in which students first follow the three-year BSc in Microbiology and Infection, and then continue into a fourth year, subject to performance.

In the first three years, you'll study a broad range of modules which cover areas such as molecular microbiology, infectious disease and global health, immunology, therapeutics and genomics with the opportunity to specialise and carry out your own research project.

The fourth (Master's) year aims at developing enhanced research and personal skills for students seeking a high-level career in research (e. g. studying for a PhD or working in industry) or those seeking to enhance their qualification. Students will join a research team to undertake a significant research project. Students can also apply for a six-week summer research internship in the UK or overseas or apply to spend time working in industry or in other enterprises in the final year.

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## What you'll learn

- Develop practical and theoretical knowledge of Microbiology with a focus on areas relevant to human health and disease.
- Develop practical skills in Microbiology, Infection and Disease
- Enhance your understanding of topical issues, ethical principles and professionalism in Microbiology & Infection
- Become literate in finding, interpreting, evaluating and managing information
- Communicate ideas effectively to a variety of audiences
- Work independently and collaboratively
- Develop critical thinking and problem-solving skills
- Use lab equipment correctly and safely
- Plan, initiate, and carry out projects

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# Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

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## Year one

In this first year, you'll gain an understanding of core concepts of biology as well as the fundamental principles of immunity, infection, and therapy. You will also study how organisms develop and function and learn about ecology and the global environment. You will develop practical skills, and you will discover how to utilise quantitative skills and study techniques.

## Modules

Compulsory modules	Credits
<a href="#"><u>BIOLOGY CORE CONCEPTS (BIOS101)</u></a>	30
<a href="#"><u>ORIGINS, SPECIALISATIONS, CHALLENGES AND THERAPEUTICS (BIOS102)</u></a>	30
<a href="#"><u>INTRODUCTORY PRACTICAL SKILLS IN BIOSCIENCES I (BIOS103)</u></a>	15
<a href="#"><u>FROM INDIVIDUALS TO ECOSYSTEM (BIOS104)</u></a>	15
<a href="#"><u>STUDY AND COMMUNICATION SKILLS TUTORIALS (BIOS105)</u></a>	15
<a href="#"><u>INTRODUCTORY PRACTICAL SKILLS IN BIOSCIENCES 2 (BIOS106)</u></a>	15

Programme details and modules listed are illustrative only and subject to change.

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## Year two

In your second year you'll expand your range of knowledge, building those essential research skills, experimental design and analysis together with professional skills preparing you for a career within or outside the area of Microbiology & Infection. You will study molecular microbiology and therapeutics, genetics and immunology, cell signalling and explore the relationship between hosts and parasites. In addition, you will choose two optional modules enabling you to follow your interests in drug discovery and development, physiology or metabolism.

## Modules

Compulsory modules	Credits
<a href="#"><u>GENETICS &amp; IMMUNOLOGY FOR BIOSCIENCES (BIOS201)</u></a>	15
<a href="#"><u>INTERMEDIARY PRACTICAL SKILLS IN BIOSCIENCES (BIOS203)</u></a>	15
<a href="#"><u>ACADEMIC AND PROFESSIONAL SKILLS TUTORIALS (BIOS205)</u></a>	15
<a href="#"><u>ADVANCED PRACTICAL SKILLS IN MICROBIOLOGY, INFECTION &amp; DISEASE (BIOS206)</u></a>	15
<a href="#"><u>CELLULAR BASIS OF HEALTH AND DISEASE (BIOS209)</u></a>	15
<a href="#"><u>MOLECULAR MICROBIOLOGY AND THERAPEUTICS (BIOS218)</u></a>	15
Optional modules	Credits
<a href="#"><u>PARASITES, PATHOGENS AND HOSTS (BIOS211)</u></a>	15
<a href="#"><u>CHEMISTRY FOR BIOSCIENCES (BIOS215)</u></a>	15
<a href="#"><u>METABOLISM (BIOS212)</u></a>	15
<a href="#"><u>CELLULAR AND SYSTEMS PHYSIOLOGY (BIOS214)</u></a>	15

Optional modules	Credits
<a href="#"><u>DRUG DISCOVERY AND DEVELOPMENT (BIOS216)</u></a>	15

Programme details and modules listed are illustrative only and subject to change.

## Year three

Year three will provide an unparalleled opportunity for you to learn at the cutting edge of microbiology and infection research and be taught by world-leading academics in the subjects of genomics, infectious diseases, and global challenges in infection. In addition, you will choose one optional module enabling to follow your interests in cell signalling or immunology and veterinary pathology. You will also have the opportunity to take a physical or virtual placement. Central to this year is the research project where you will plan and execute your own research, analyse and critically evaluate data and communicate your research findings in your chosen specialisation.

## Modules

Compulsory modules	Credits
<a href="#"><u>RESEARCH PROJECT (BIOS301)</u></a>	30
<a href="#"><u>INTRODUCTION TO THE WORLD OF WORK (BIOS302)</u></a>	15
<a href="#"><u>RESEARCH METHODS (BIOS303)</u></a>	15
<a href="#"><u>APPLIED MICROBIOLOGY AND INFECTION (BIOS314)</u></a>	15
<a href="#"><u>GENOMICS AND EVOLUTION OF MICROBES (BIOS317)</u></a>	15
<a href="#"><u>GLOBAL CHALLENGES IN INFECTION (BIOS319)</u></a>	15

Optional modules	Credits
<a href="#"><u>INFORMATION PROCESSING BY CELL SIGNALLING NETWORKS IN HEALTH AND DISEASE (BIOS331)</u></a>	15
<a href="#"><u>IMMUNOLOGY AND VETERINARY PATHOLOGY (BIOS335)</u></a>	15

Programme details and modules listed are illustrative only and subject to change.

## Year four

The fourth year of study offers great flexibility – students may spend it entirely on campus at Liverpool, but more commonly they take up opportunities to broaden their experiences, for example a six-week research internship in the UK (in hospitals, industry or research institutes) or abroad (in our partner universities in Thailand or China). Others may elect to spend the entire fourth year on placement, in similar host institutions. Students will take core modules in research methods and statistics or informatics, together with a 60-credit research project. Students may replace the optional internship with other optional modules that cover advanced topics of global importance.

Optional module selection in Year 4 must include one of the following combinations:

- LIFE707 Biological Data Skills and LIFE607 Biological Data Skills (Off-Campus)
- LIFE721 Informatics for Life Sciences and LIFE621 Informatics for Life Sciences (Off-Campus).

## Modules

Compulsory modules	Credits
<a href="#"><u>RESEARCH PROJECT (LIFE700)</u></a>	60
<a href="#"><u>RESEARCH METHODS AND APPLICATIONS IN BIOLOGICAL SCIENCES (OFF-CAMPUS) (LIFE631)</u></a>	15

Compulsory modules	Credits
<a href="#"><u>GLOBAL PERSPECTIVES (BIOS776)</u></a>	15
Optional modules	Credits
<a href="#"><u>BIOLOGICAL DATA SKILLS (LIFE707)</u></a>	15
<a href="#"><u>BIOLOGICAL DATA SKILLS (OFF-CAMPUS) (LIFE607)</u></a>	15
<a href="#"><u>INFORMATICS FOR LIFE SCIENCES (LIFE721)</u></a>	15
<a href="#"><u>INFORMATICS FOR LIFE SCIENCES (OFF-CAMPUS) (LIFE621)</u></a>	15
<a href="#"><u>RESEARCH INTERNSHIP (LIFE701)</u></a>	30
<a href="#"><u>CODING FOR LIFE SCIENCES (LIFE733)</u></a>	15
<a href="#"><u>CELLULAR BIOTECHNOLOGY AND BIOLOGICAL IMAGING (LIFE749)</u></a>	15
<a href="#"><u>EMERGING INFECTIONS AND PANDEMICS (LIFE751)</u></a>	15
<a href="#"><u>IMMUNOLOGY (LIFE728)</u></a>	15
<a href="#"><u>DIAGNOSTICS, THERAPEUTICS AND VACCINES (LIFE732)</u></a>	15
<a href="#"><u>COMPUTATIONAL BIOLOGY (LIFE752)</u></a>	15
<a href="#"><u>PROTEOMICS METABOLOMICS AND DATA ANALYSIS (LIFE754)</u></a>	15
<a href="#"><u>SYNTHETIC BIOLOGY AND BIOTECHNOLOGY (LIFE756)</u></a>	15
<a href="#"><u>UNDERSTANDING MODELS AND DATA (IVES724)</u></a>	15

## Teaching and assessment

### How you'll learn

You will experience a range of learning environments during your studies at Liverpool. These will include student-centred activities as well as lectures, tutorials, laboratory practicals, dissection classes, fieldwork, data handling sessions and computer workshops. Some of these activities will be performed individually, such as personal research projects, and others in small tutorial or project groups, in addition to formal lectures and workshops. You will have research staff as well as your own academic adviser for individual tuition on our acclaimed tutorial programme.

### How you're assessed

As well as factual knowledge and understanding, biologists need practical and organisational skills, and an ability to work both alone and with other people. We record development of these abilities through continuous assessment during each semester and by final examination.

### Liverpool Hallmarks

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

The Liverpool Curriculum framework sets out our distinctive approach to education. Our teaching staff support our students to develop academic knowledge, skills, and understanding alongside our **graduate attributes**:

- Digital fluency
- Confidence
- Global citizenship

Our curriculum is characterised by the three **Liverpool Hallmarks**:

- Research-connected teaching
- Active learning
- Authentic assessment



All this is underpinned by our core value of **inclusivity** and commitment to providing a curriculum that is accessible to all students.

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# Careers and employability

As a Biosciences graduate from the University of Liverpool, you will have an excellent set of career options ahead of you.

Typical types of roles/routes our graduates have gone on include:

- Postgraduate study: (MBiolSci, MSc, MRes, MPhil or PhD)
- Public sector – research institutes, government departments, the National Health Service, forensic science and the Environment Agency
- Commercial sectors – pharmaceutical, food, biotechnology, water and agriculture industries
- Journalists and information/liaison officers – by developments in molecular biology and biotechnology
- Teaching profession by taking a postgraduate qualification (PGCE)
- Routes to postgraduate Medicine, Dentistry or Veterinary Science.

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# Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

## Tuition fees

### UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)

Full-time place, per year – £9,790

Year abroad fee – £1,385 (applies to year in China)

### International fees

Full-time place, per year – £32,000

Year abroad fee – £16,000 (applies to year in China)

The UK and international full-time fees shown are for the academic year 2026/27 (UK fees are subject to Parliamentary approval). UK year abroad and year in industry fees and international year in industry fees shown are for entry 2025, as 2026/27 fees have yet to be confirmed. Please be advised that tuition fees may increase each year for both UK and international students. For UK students, this will be subject to the government's regulated fee limits.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support. [Learn more about paying for your studies.](#)

## Additional costs

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This includes the costs associated with placements or internships, and the optional field course in Uganda.

Students should expect to cover the following costs.

### Costs associated with placements/internships

Students in Biosciences who have chosen international placements/internships will need to pay for their visa (if applicable), travel, accommodation, and meals.

There may also be costs associated with travel to interviews for placements/internships. These will vary, and some other extra costs may also be incurred. If students are spending a full year in industry, their employers may pay transport costs. School and University bursaries may be available to help with the cost of these opportunities.

Students might choose to pay for additional optional vaccinations in addition to the compulsory ones that the School pays for.

### **Tropical ecology field course**

Students who elect to take the optional tropical ecology field course in Uganda are required to make a financial contribution that covers their own costs (travel, meals, visa, accommodation, and entry to national parks). In 2020-21, the student contribution was £1,500. A limited number of funded places are available.

Students might choose to pay for additional optional vaccinations in addition to the compulsory ones that the School pays for.

[Find out more about additional study costs.](#)

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# Entry requirements

The qualifications and exam results you'll need to apply for this course.

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## A levels

ABB

including Biology and a second science, preferably Chemistry, at A level.

Applicants with the Extended Project Qualification (EPQ) are eligible for a reduction in grade requirements. For this course, the offer is **BBB** with **A** in the EPQ.

You may automatically qualify for reduced entry requirements through our contextual offers scheme. Based on your personal circumstances, you may automatically qualify for up to a two-grade reduction in the entry requirements needed for this course. When you apply, we consider a range of factors – such as where you live – to assess if you're eligible for a grade reduction. You don't have to make an application for a grade reduction – we'll do all the work.

Find out more about [how we make reduced grade offers](#).

If you don't meet the entry requirements, you may be able to complete a foundation year which would allow you to progress to this course.

Available foundation years:

- [Biological Sciences \(with a Foundation Year\)](#) BSc (Hons)

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## GCSE

4/C in English and 4/C in Mathematics

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## Subject requirements

Accepted science subjects:

Applied ICT

Biology (and Human Biology)

Chemistry

Computer Science

Economics

Electronics

Environmental Science

Further Mathematics

Geography

Geology  
ICT  
Life and Health Sciences  
Mathematics  
Psychology  
Physics  
Statistics.

For applicants from England, where A levels in Biology, Chemistry or Physics have been taken, we will also require a pass in the Practical Endorsement.

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### **BTEC Level 3 National Extended Diploma**

D\*DD in Applied Science with a selection of preferred units in Biology and Chemistry, to include Distinction in Units 1 or 5 (Principles and Applications of Science I and II).

For previous BTEC (QCF) qualification:

D\*DD in Applied Science with a selection of preferred units in Biology and Chemistry, with at least 120 Level 3 credits at Distinction.

Please note alternative BTEC subjects are not acceptable for this programme.

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### **International Baccalaureate**

32 points overall with no score less than 4 including 6 in Higher Level Biology and 5 in Higher Level Chemistry (or second science) or pass the IB Diploma plus 6,5,5 in 3 HL subjects including 6 in Higher Level Biology and 5 in Higher Level Chemistry (or second science).

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### **Irish Leaving Certificate**

H1, H2, H2, H2, H3, H3

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### **Scottish Higher/Advanced Higher**

Not accepted without Advanced Highers at grades ABB.

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### **Welsh Baccalaureate Advanced**

B in the Welsh Baccalaureate, plus AB at A level to include Biology and another Science.

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## Access

Pass relevant Access to HE Diploma with 45 Level 3 credits with 33 at Distinction and 12 at Merit. 15 Distinctions are required in each of Biology and Chemistry. GCSE Mathematics and English grade C/4 also required.

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## International qualifications

Select your country or region to view specific entry requirements.

If you hold a bachelor's degree or equivalent, but don't meet our entry requirements, you could be eligible for a Pre-Master's course. This is offered on campus at the [University of Liverpool International College](#), in partnership with Kaplan International Pathways. It's a specialist preparation course for postgraduate study, and when you pass the Pre-Master's at the required level with good attendance, you're guaranteed entry to a University of Liverpool master's degree.

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## English language requirements

You'll need to demonstrate competence in the use of English language, unless you're from a [majority English speaking country](#).

We accept a variety of [international language tests](#) and [country-specific qualifications](#).

International applicants who do not meet the minimum required standard of English language can complete one of our [Pre-Sessional English courses](#) to achieve the required level.

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### IELTS

6.5 overall, with no component below 5.5

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### TOEFL iBT

88 overall, with minimum scores of listening 17, writing 17, reading 17 and speaking 19. TOEFL Home Edition not accepted.

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### **Duolingo English Test**

125 overall, with speaking, reading and writing not less than 105, and listening not below 100

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### **Pearson PTE Academic**

61 overall, with no component below 59

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### **LanguageCert Academic**

70 overall, with no skill below 60

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### **Cambridge IGCSE First Language English 0500**

Grade C overall, with a minimum of grade 2 in speaking and listening. Speaking and listening must be separately endorsed on the certificate.

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### **Cambridge IGCSE First Language English 0990**

Grade 4 overall, with Merit in speaking and listening

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### **Cambridge IGCSE Second Language English 0510/0511**

0510: Grade B overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0511: Grade B overall.

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### **Cambridge IGCSE Second Language English 0993/0991**

0993: Grade 6 overall, with a minimum of grade 2 in speaking. Speaking must be separately endorsed on the certificate. 0991: Grade 6 overall.

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### **Cambridge ESOL Level 2/3 Advanced**

176 overall, with no paper below 162

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### **International Baccalaureate English A: Literature or Language & Literature**

Grade 5 at Standard Level or grade 5 at Higher Level

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## International Baccalaureate English B

Grade 7 at Standard Level or grade 6 at Higher Level

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### Pre-sessional English

Do you need to complete a Pre-sessional English course to meet the English language requirements for this course?

The length of Pre-sessional English course you'll need to take depends on your current level of English language ability.

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### Pre-sessional English in detail

If you don't meet our English language requirements, we can use your most recent IELTS score, or [the equivalent score in selected other English language tests](#), to determine the length of Pre-sessional English course you require.

Use the table below to check the course length you're likely to require for your current English language ability and see whether the course is available on campus or online.

Your most recent IELTS score	Pre-sessional English course length	On campus or online
6.0 overall, with no component below 5.5	6 weeks	On campus
5.5 overall, with no component below 5.5	10 weeks	On campus and online options available
5.5 overall, with no more than one component below 5.5, and no component below 5.0	12 weeks	On campus and online options available

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Your most recent IELTS score	Pre-sessional English course length	On campus or online
5.5 overall, with no component below 4.5	20 weeks	On campus
5.0 overall, with no component below 4.5	30 weeks	On campus
4.5 overall, with no more than one component below 4.5, and no component below 4.0	40 weeks	On campus

If you've completed an alternative English language test to IELTS, we may be able to use this to assess your English language ability and determine the Pre-sessional English course length you require.

Please see our guide to [Pre-sessional English entry requirements](#) for IELTS 6.5 overall, with no component below 5.5, for further details.

## Alternative entry requirements

- If your qualification isn't listed here, or you're taking a combination of qualifications, [contact us](#) for advice
- [Applications from mature students](#) are welcome.

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