MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2026-27
Module Code	IDM102
Module Title	Principles of Biology
Module Organiser(s)	Alesha Myers & Lynn Grignard
Contact email	For students studying University of London Awards (initial registration 2025/2026 and prior years): Enquiries may be made via their Student Advice Centre at: Student Advice Centre. For students studying LSHTM awards (registration in 2026/2027 and onwards): Enquiries should be emailed to IDsupport@lshtm.ac.uk
Faculty	Infectious & Tropical Diseases
FHEQ Level	Level 7
Credit Value	**CATS:** 15 **ECTS:** 7.5
Mode of Delivery	Distance Learning
Mode of Study	Directed self-study, through provided and online materials
Language of Study	English
Pre-Requisites	None
Accreditation by Professional Statutory and Regulatory Body	None
Module Cap (Maximum number of students)	None
Target Audience	This module is intended for those with an interest in infectious diseases who wish to expand on a basic educational or professional background in biological sciences.
Module Description	This module introduces students to fundamental biological principles in four key topic areas including (1) the evolutionary tree of life, (2) molecular biology and biochemistry, (3) cell biology and (4) immunology & vaccinology.

Duration	Distance learning module studies begin in early October. Students may start their studies at any time from receipt of study materials and work through the material until the start of the June assessments (although assessment submission deadlines which are earlier than this must be observed).
Last Revised (e.g. year changes approved)	March 2026

For students studying UoL awards (initial registration in 2025/2026 and prior years)

Programme(s) This module is linked to the following programme(s)	**Status**
PGCert/PGDip/MSc Infectious Diseases (Distance Learning - University of London Worldwide)	Compulsory

For students studying LSHTM awards (registration in 2026/2027 and onwards)

Programme(s) This module is linked to the following programme(s)	**Status**
PGCert Infectious Diseases (Distance Learning)	Compulsory
PGDip Infectious Diseases (Distance Learning)	Compulsory
MSc Infectious Diseases (Distance Learning)	Compulsory

Module Aim and Intended Learning Outcomes

Overall aim of the module
The overall module aim is to: • introduce students to the fundamental biological principles which are necessary for the Postgraduate Diploma and MSc in Infectious Diseases. Areas covered include: the evolutionary tree of life, molecular biology and biochemistry; cell biology and immunology and vaccinology.

Module Intended Learning Outcomes
Upon successful completion of the module a student will be able to: 1. Identify and categorise evolutionary relationships between kingdoms and have a critical understanding of the features of prokaryotic and eukaryotic cells; 2. Explain the characteristics and roles of the basic molecules of life and demonstrate an understanding of the biochemistry that governs their interactions by creating new ways to represent the information; 3. Analyse the relationships between cellular components, structures and mechanisms to summarise specific cell functions; 4. Integrate knowledge of the main cell types, molecules and processes involved in the immune response with functional understanding to demonstrate how the various components act together to provide immunity to infection.

Indicative Syllabus

Session Content
The module is expected to cover the following topics: • **Section 1 – Evolution and Classification** The first, very short, section consists of a single session. It introduces the concepts of evolution, eukaryotes and prokaryotes, and classification. • **Section 2 – Biochemistry and Molecular Biology** The second section introduces a wide range of topics, starting with the structure of the atom, and how molecules interact. Basic biochemical concepts are discussed before moving on to look at the properties of the main classes of biological molecules. Understanding these properties is essential to an appreciation of infectious agents, tackled later in other modules. Finally, there are several sessions looking at the properties of nucleic acids – how they replicate, how they act as the genetic material of the cell and the analytical techniques used to probe and utilise the information they contain. • **Section 3 – Cell Biology** The third section deals with cell biology and, in particular, the mammalian cell. This is important because the cell is a specialized and highly complex microenvironment. In some cases, it is an environment in which infectious agents choose to live and thrive;

in others it is an extremely hostile instrument that is highly successful at destroying invading organisms.

- **Section 4 – Immunology**

Cell biology leads on to the study of immunology – the subject of Section 4. The human body's defence against invasion is a remarkable multi-layered system that involves components that are both innate and acquired during an individual's lifetime. This section covers antibody, cytokine and cellular immune responses, how genetic diversity prevents population collapse in the face of epidemics, how vaccines are developed and how some immune responses can be harmful.

Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Directed self-study	95	63.3
Self-directed learning	20	13.3
Assessment, review and revision	35	23.3
Total	**150**	**100**

Teaching and Learning Strategy

Learning is self-directed against a detailed set of learning objectives using the materials provided. Students are strongly encouraged to participate in the module-specific discussion forums available on Moodle to obtain tutor support, and to make use of the LSHTM online library resources.

The notional learning time for the module totals 150 hours, consisting of:

- Directed self-study (reading and working through the provided module material) ≈ 95 hours.
- Self-directed learning (general reading around the subject, library, Moodle discussion forums) ≈ 20 hours.
- Assessment, review and revision ≈ 35 hours.

Assessment

Assessment Strategy
This module is assessed by a single summative assessment based on a student presentation. Formative presentations will feed forward into the final summative assessment. Both the formative assessment (FA) and the assessed assignment (AA) require students to prepare and record a 15-minute presentation (10-15 slides) that demonstrates their understanding of the module content and the connections between the four sections of the module. Students are required to submit a recorded presentation and the associated slide decks, on a topic from a list of topics provided by the Module team, for both the formative and summative assessments The assessed presentation is worth 100% of the module's assessed component. Students will receive written feedforward on the formative assessment and written feedback on the assessed assignment.

Summative assessment

Assessment Type	Assessment Length	Weighting (%)	Intended Module Learning Outcomes Tested
Formative Presentation	15-minute (10–15 slides) recorded presentation	0 (Formative)	1, 2, 3 and 4
Assessed Presentation	15-minute (10–15 slides) recorded presentation	100	1, 2, 3 and 4

Assessment submission deadlines
Formative presentation: 15th February Assessed presentation: 12th May Reasonable adjustments (RA) can be made for students with additional needs. Candidates requesting RA should contact the IDsupport@lshtm.ac.uk and module organisers at least one month before the submission deadlines – specifically by 15th January for the FA and by 12th April for the AA. Students who registered for the module prior to the start of the 2026-27 academic year and have completed one of the previous two Assessed Assignments, will have two further years to complete the old assessment regime. Students who have not attempted either of the previous assessments will move to the new assessment. **For students studying UoL awards (initial registration in 2025/2026 and prior years)** Assessments are held in accordance with University of London's annual guidance. **For students studying LSHTM awards (registration in 2026/2027 and onwards)** Assessments are held in accordance with Chapter 8b of the LSHTM Academic Manual.

Resitting assessment
Resits will accord with Chapter 8b of the LSHTM Academic Manual. The Resit assessment will be the same assessment type as the first attempt (see previous table). (Note that for those resitting module assessments, a fee will be payable.) • Prior to September 2026, formal assessment of this module was by two written assessed assignments taken from a choice of two pairs of tasks (50% for each assignment). Students needed to pass the module with an overall GPA of 2 and each individual assessed assignment must be graded a minimum grade point (GP) of 1. • Students who have were registered to this module prior to 1 September 2026 and have not submitted any element of the IDM102 assessment must move to the new mode of assessment. • If a student registered for module IDM102 prior to 1 September 2026 and is required to sit the one of the AAs or needs to resit an AA the last opportunity to do so will be 15th February 2028 for AA1 and 12 May 2028 for AA2. After these dates all students still needing to submit an AA will be transferred to the new mode of assessment The Resit assessment will be the same assessment type as the first attempt. Resit attempts must address a different topic to both the formative and assessed (first attempt) assignments (Note that for those resitting module assessments, a fee will ordinarily be payable.)

Resources

Indicative reading list

- Pommerville (2021). *Fundamentals of Microbiology*, 12th Ed. Jones & Bartlett Publishers Inc. ISBN: 978 1284484410.
- Goering, R.V., Dockrell, H.M., Zuckerman, and Chiodini, P.L., (2024) *Mims' Medical Microbiology and Immunology.* 7th Ed. ISBN: 9780702071546.
- Clark, M.A., Douglas, M., Choi, J., Biology 2e OpenStax https://openstax.org/details/books/biology-2e

Textbooks will be made available in e-format to registered students in early autumn.

Other resources

Study Guide: Available online, and to download, via the virtual learning environment

Reading list: On-line reading list via the virtual learning environment

In addition to the materials above, students are given access to the **LSHTM Virtual Learning Environment, (VLE; Moodle)** where they can access the study guide, reading list, web-based discussion forums, assessed assignment information, supplementary materials, Panopto recordings and the **LSHTM online library resources**.

Teaching for Disabilities and Learning Differences

The module-specific site on Moodle provides students with access to the module learning materials, including a study guide (with accessible printable versions of sessions), an online reading list (containing essential readings), textbooks in e-format and additional resources including supplementary exercises and optional lecture recordings (via Panopto).

All materials posted up on Moodle areas, including computer-based sessions, have been made accessible where possible. The LSHTM Moodle has been made accessible to the widest possible audience, using a VLE that allows for up to 300% zoom, permits navigation via keyboard and use of speech recognition software, and that allows listening through a screen reader. All students have access to "SensusAccess" software which allows conversion of files into alternative formats.

For Students studying University of London Awards (initial registration 2025/2026 and prior years:
For students with special needs, reasonable adjustments and support can be arranged – details and how to request support can be found on the University of London Worldwide website at: Inclusive practice and Access arrangements | University of London

For Students Studying LSHTM awards (registration 2026/2027 and onwards):
For students who require learning or assessment adjustments and support this can be arranged through the Student Support Services – details and how to request support can be found on the LSHTM Disability Support pages.