

Module Specification (Distance Learning)

In collaboration with University of London International Programmes



1. Title:	Principles of Biology
2. Module code:	IDM102
3. Institution:	Faculty of Infectious and Tropical Diseases London School of Hygiene & Tropical Medicine Keppel Street London WC1E 7HT http://www.lshtm.ac.uk/itd/
4. Module Organiser:	Dr Steven Smith
5. Mode of study:	Distance Learning
6. Type:	Core module
7. Duration and dates:	<p>Deadlines if taken as part of a formal award:</p> <p>Application deadline: 30 June each year</p> <p>Registration deadline: 31 August each year</p> <p>Course registration duration: Up to 5 years</p> <p>Course starts: 1 October each year</p> <p>Examination takes place: Usually June each year (date to be confirmed)</p> <p>Deadlines if taken as an individual module (i.e. not registered for formal award):</p> <p>Application deadline: 31 August each year</p> <p>Registration deadline: 30 November each year</p> <p>Registration duration: 2 years</p> <p>Module study starts: 1 October each year</p> <p>Examination takes place: Usually June each year (date to be confirmed)</p>
8. Credit points:	15 credit points will be awarded on successful completion of this module at Masters level (Level 7).
9. Notional Learning Hours (NLH):	On average the module should take about 150 hours to complete, consisting of the following: Directed self-study: 75 hours Self-directed Learning: 25 hours Assessment review and revision: 50 hours.
10. Aim:	This module aims to introduce students to the fundamental biological principles which are necessary for the Postgraduate Diploma and MSc Infectious Diseases. Areas covered include: principles of the scientific approach; molecular biology and biochemistry; cell biology and immunology and vaccinology.
11. Learning objectives:	<p>On completing this module students should be able to:</p> <ul style="list-style-type: none"> • discuss the basic features of prokaryotic and eukaryotic cells and, at a basic level, the evolutionary relationships between the main kingdoms • explain the characteristics and roles of the basic molecules of life and demonstrate the biochemistry that governs their interactions • describe the structure of different types of cells and explain the relationships between these structures and the specialised functions of cells and their components • discuss the main cell types, molecules and processes involved in the immune response and demonstrate how the various components act together to provide immunity to infection.

12. Content:	<p>This module consists of four sections of varying length:</p> <p>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.</p> <p>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, and how they act as the genetic material of the cell.</p> <p>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.</p> <p>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 multilayered system. Rather like cell biology, this is topic is very fluid, as it is a very active area of research. Theories and ‘magic molecules’ come to prominence and pass out of favour with alarming frequency; if you have studied immunology in the past, you might find there have been significant changes in certain aspects of this subject.</p>
13. Learning methods:	<p>Learning is self-directed against a detailed set of learning objectives using the materials provided.</p> <p>Student support is available from the module tutors via a web-based discussion forum in which students are encouraged to participate. In addition, module tutors provide written feedback on the submitted optional formative assignments.</p>
14. Study resources provided:	<p>Study Guide: paper version.</p> <p>Reader (folder containing associated journal articles).</p> <p>Textbooks: Alcamo, I.E., (2010). <i>Fundamentals of Microbiology</i>, 9th Ed. Jones & Bartlett Publishers Inc. ISBN: 9780763762582. Goering, R., et al (2007) <i>Mims’ Medical Microbiology</i>.4th Ed. Mosby. ISBN: 9780323044752. Alberts, B., et al (2008). <i>Molecular Biology of The Cell</i>. 5th Ed, Garland Science. ISBN: 9780815341062.</p> <p>Registered students have access to the School’s online library resources.</p>
15. Assessment procedures:	<p>Optional formative assignments are available to help students practice some of the principles discussed, and obtain tutor feedback.</p> <p>Formal assessment of this module includes a two-hour unseen written paper (100%). The examination paper may consist of a choice of essay and short answer questions.</p>

	<p>Examinations are normally held in a student's country of residence, in one of over 650 examination centres worldwide. They are arranged mainly through Ministries of Education or the British Council. A local fee will be payable. A list of examination centres can be found at http://www.londoninternational.ac.uk/current_students/general_resources/exams/exam_centres/index.shtml.</p> <p>If students fail an examination at the first entry they will be allowed one further attempt, the following year.</p>
16. Prerequisites:	<p>Those wishing to study this module must have regular access to the internet to benefit from library facilities, participate in web-based conference discussions and submit assignments.</p> <p>Students must meet the standard of English required to study this course. http://www.lshtm.ac.uk/prospectus/english.html.</p>
17. Attendance:	No maximum number
18. Selection, if applicable:	This module is available only to those registered on the MSc, Postgraduate Diploma and Postgraduate Certificate <u>Infectious Diseases</u> courses; alternatively, it can be taken as an Individual Module.
19. Fees:	For current schedule of fees see http://www.londoninternational.ac.uk/fees/schedules/lshtm.pdf .
20. Scholarships:	None available
21. External accreditation:	None
22. Application process:	Applications are managed by the University of London International Programmes (website: http://www.londoninternational.ac.uk/).
23. Further enquiries:	Enquiries may be emailed to distance@lshtm.ac.uk .