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MODULE SPECIFICATION

Academic Year (student cohort covered by specification)	2020-21
Module Code	IDM213
Module Title	Immunology of Infection and Vaccines
Module Organiser(s)	Dr Martin Holland & Dr John Raynes
Contact email	The LSHTM distance learning programmes and modules are run in collaboration with University of London Worldwide. Enquiries may be made via the Student Advice Centre . (Enquiries from face-to-face i.e. London-based the LSHTM MSc or research students regarding study of DL modules should be emailed to distance@lshtm.ac.uk .)
Faculty	Infectious & Tropical Diseases: The London School of Hygiene & Tropical Medicine https://www.lshtm.ac.uk/research/faculties/itd
FHEQ Level	Level 7
Credit Value	CATS: 15 ECTS: 7.5
HECoS Code	100265:100345 (1:1)
Mode of Delivery	Distance Learning
Mode of Study	Directed self-study, through provided and online materials
Language of Study	English
Pre-Requisites	Those who wish to study this module as an individual module or as part of another programme should have a prior knowledge of basic biochemistry, cell biology, genetics, immunology and microbiology in order to be able to work through and benefit fully from this module.
Accreditation by Professional Statutory and Regulatory Body	None
Module Cap (Maximum number of students)	None
Target Audience	This module is intended for those who wish to understand the immune response to infection and vaccines.
Module Description	This module will cover how various components of the immune system protect us from infection. This will be achieved by introducing how different classes of pathogens evade immune responses and the types of response that are



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	crucial in protection. This forms the basis of discussion of the types of responses vaccinations need to induce protection. Although not all aspects of immunology can be covered in depth, more detailed insight will be provided into selected aspects of current research of particular relevance to vaccine design.
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 examinations (although assessment submission deadlines which are earlier than this must be observed).
Last Revised (e.g. year changes approved)	May/2020

Programme(s)	Status
This module is linked to the following programme(s)	
PGDip/MSc Infectious Diseases (Distance Learning - University of London Worldwide)	Elective option
PGDip/MSc Clinical Trials (Distance Learning - University of London Worldwide)	Elective option
PGDip/MSc Epidemiology (Distance Learning - University of London Worldwide)	Elective option
PGDip/MSc Global Health Policy (Distance Learning - University of London Worldwide)	Elective option
PGDip Public Health (Distance Learning - University of London Worldwide)	Elective Option
MSc Public Health (General Stream) (Distance Learning - University of London Worldwide)	Elective Option
MSc Public Health: Environment and Health (Distance Learning - University of London Worldwide)	Elective Option
MSc Public Health: Health and Promotion (Distance Learning - University of London Worldwide)	Elective Option
MSc Public Health: Health Services Management (Distance Learning - University of London Worldwide)	Elective Option

Module Aim and Intended Learning Outcomes

Overall aim of the module

The overall module aim is to:

- provide an overview of modern molecular immunology methods and immunity to infection.

Module Intended Learning Outcomes

Upon successful completion of the module a student will be able to:

1. describe the main immunological responses responsible for immunity to the selected pathogens and how these influence vaccine design,
2. discuss evasion strategies of pathogens and problems they cause for vaccine design,
3. understand the principles and uses of a range of immunological techniques in current use,
4. read a scientific paper on the immunology of infection and understand how the findings support or contradict previously held theories.

Indicative Syllabus

Session Content

The module is expected to cover the following topics:

- **Section 1** The immune system and vaccine design
This section aims to provide a basic understanding of immunology. The sessions cover innate immunity, acquired immunity, the various forms of immunodeficiency that affect these immune systems and then a consideration of vaccines and how they work.
- **Section 2** Immunity to infection and vaccines
These sessions are arranged in four blocks each deal with the immunology of particular bacterial, fungal, viral, and parasitic infections.
- **Section 3** Methodology
This section contains three sessions on some really important methods which are central to the investigation of immune responses.
- **Section 4** Journal studies
Three research papers have been chosen for students to interpret, where each paper deals with one of the infections covered in Section 2.
- Section 2 is the core component of the programme with section 1 providing an introduction where needed to the immune response. Sections 3 and 4 are then additional components that provide more insight into the practical aspects of immunology research.



Teaching and Learning

Notional Learning Hours

Type of Learning Time	Number of Hours	Expressed as Percentage (%)
Directed self-study	80	53.3
Self-directed learning	20	13.3
Assessment, review and revision	50	33.3
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. In addition, written feedback is provided on submitted assignments.

Assessment

Assessment Strategy

Formal assessment of this module includes a two-hour unseen written paper examination with 15 minutes additional reading/planning time (70%) and an assessed assignment comprising a 2500-word essay (30%).

Summative assessment

Assessment Type	Assessment Length	Weighting (%)	Intended Module Learning Outcomes Tested
Assessed Assignment	2500 words	30	1 and 2
Exam	2 hours 15 minutes	70	1, 2, 3 and 4



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Assignments for this module can be submitted only once annually, no later than 31st March and must be submitted via the online Assignment Management System.

Unseen written examinations for DL modules are held once a year, in June (including resits). 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 list of examination centres can be found at <https://london.ac.uk/current-students/examinations/examination-centres>.

A local fee will be payable direct to the examination centre. This fee is in addition to the programme/module fee and is set by, and paid directly to, the individual examination centres. The level of local examination centre fees varies across the world and neither the University of London nor the LSHTM have any control over the fee amount.

Resitting assessment

Resits will accord with the LSHTM's [Resits Policy](#).

The Resit assessment will be the same assessment type as the first attempt (see previous table).

Resources

Indicative reading list

- Playfair, J., & Bancroft, G., (2013). *Infection & Immunity*. 4th Ed. Oxford University Press. ISBN: 9780199609505.
- Goering, R.V., Dockrell, H.M., Zuckerman, M. and Chiodini, P.L., (2018) *Mims' Medical Microbiology and Immunology*. 6th Ed. ISBN: 978-0702071560.

Other resources

Study Guide: Paper version

Reader: Reprints of associated journal articles.

In addition to the materials above, students are given access to the **LSHTM Virtual Learning Environment, Moodle** where they can access the study guide, reading list, web-based discussion forums, assignments, supplementary materials 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) and online reading list (containing essential readings, and textbooks if available), and additional resources including supplementary exercises. 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.

If you have specific, access requirements please contact the Inclusive Practice Manager via special.arrangements@london.ac.uk to request an alternative format of the study guide and for special exam arrangements.