

LF264-15 Immunology

26/27

Department

Life Sciences

Level

Undergraduate Level 2

Module leader

Sophie Martucci

Credit value

15

Module duration

5 weeks

Assessment

Multiple

Study location

University of Warwick main campus, Coventry

Description

Introductory description

The aim of this module is to achieve an overview of the immune system with a focus on adaptive immunity.

By the end of the course you will have a good understanding of the main molecular and cellular players in the immune system and how they interact.

You should have a good conceptual grasp of the role of the immune system in defining self from non-self and how T cells and B cells acquire this discrimination.

You should also be able to understand how important the balance of the immune system is and what happens when the normal status quo is disrupted.

Module aims

The aim of this module is to introduce students to one of the fundamental processes that underpin modern biomedical science: immunology. It builds on the material delivered in LF127 Infection Biology and Microbiology in Year 1. Immunology deals with the basic processes of immunity to infection, but also covers aspect of hypersensitivity and auto-immune disease.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Immunology is presented as an overview of the immune system with a focus on T cell immunity, including:

- Recognition of antigen by the adaptive immune system.
- The TCR and MHC
- T-cell mediated immunity
- The humoral immune response
- Failure of immunity: evasion and subversion and immunodeficiency disease.
- Mucosal immunity
- Inappropriate activation: allergy and autoimmune disease
- An introduction to immunopharmacology

Learning outcomes

By the end of the module, students should be able to:

- Analyse the key components of the innate and adaptive immune systems.
- Explain mechanisms of immunological diversity.
- Explain cytokine and cytokine receptor interactions.
- Apply immunological principles to hypersensitivity and autoimmune conditions.
- Explain T cell and B cell mediated immunity.
- Analyse and interpret clinical immunological data

Indicative reading list

[Reading lists can be found in Talis](#)

Subject specific skills

Explain the main molecular and cellular players in the innate and adaptive immune system and their interaction.

Explain the role of the immune system in defining self from non-self and how T cells and B cells acquire this discrimination.

Transferable skills

Adult learning

Self directed learning

Study

Study time

Type	Required
Lectures	17 sessions of 1 hour (11%)
Other activity	10 hours (7%)
Private study	91 hours 30 minutes (61%)
Assessment	31 hours 30 minutes (21%)
Total	150 hours

Private study description

Self-directed learning and revision for the final exam

Other activity description

In-class assignment

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Students can register for this module without taking any assessment.

Assessment group D1

	Weighting	Study time	Eligible for self-certification
In-class assignment	30%	30 hours	Yes (extension)
Authentic assessment, based on a common immunological problem or dataset researchers would deal with on a regular basis in the academic environment			
Closed-book end-of-year examination	70%	1 hour 30 minutes	No
In-person locally-timetabled closed-book end-of-year examination			

Assessment group R1

	Weighting	Study time	Eligible for self-certification
Closed-book examination	100%		No
In-person locally-timetabled closed-book examination			

Feedback on assessment

Final examination feedback is given to returning students as generalised feedback on what constituted a good essay; common mistakes/misconceptions and good practise are identified and shared.

[Past exam papers for LF264](#)

Availability

Courses

This module is Core optional for:

- UIPA-C1L8 Undergraduate Life Sciences and Global Sustainable Development
 - Year 2 of C1L8 Life Sciences and Global Sustainable Development
 - Year 2 of C1LA Life Sciences and Global Sustainable Development: Biological Sciences

This module is Optional for:

- Year 2 of UBSA-C700 Undergraduate Biochemistry
- ULFA-C1A2 Undergraduate Biochemistry (MBio)
 - Year 2 of C1A2 Biochemistry
 - Year 2 of C700 Biochemistry
- Year 2 of ULFA-C702 Undergraduate Biochemistry (with Placement Year)
- Year 2 of ULFA-C1A6 Undergraduate Biochemistry with Industrial Placement (MBio)
- Year 2 of UBSA-3 Undergraduate Biological Sciences
- Year 2 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- Year 2 of ULFA-C113 Undergraduate Biological Sciences (with Placement Year)
- Year 2 of ULFA-C1A5 Undergraduate Biological Sciences with Industrial Placement (MBio)
- Year 2 of UBSA-C1B9 Undergraduate Biomedical Science
- ULFA-C1A3 Undergraduate Biomedical Science (MBio)
 - Year 2 of C1A3 Biomedical Science
 - Year 2 of C1B9 Biomedical Science
- Year 2 of ULFA-C1A7 Undergraduate Biomedical Science with Industrial Placement (MBio)
- Year 2 of ULFA-CB18 Undergraduate Biomedical Science with Placement Year
- Year 2 of UMDA-CF10 Undergraduate Integrated Natural Sciences (MSci)

- Year 2 of ULFA-B140 Undergraduate Neuroscience (BSc)
- Year 2 of ULFA-B142 Undergraduate Neuroscience (MBio)
- Year 2 of ULFA-B143 Undergraduate Neuroscience (with Industrial Placement) (MBio)
- Year 2 of ULFA-B141 Undergraduate Neuroscience (with Placement Year) (BSc)