

LF914-15 Immunology

20/21

Department

Life Sciences

Level

Undergraduate Level 2

Module leader

Leanne Williams

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 web page](#)

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 BS127 Agents of infectious disease and provides the preliminary understanding for the final year module BS317 Advanced Immunology. Together with companion modules dealing with specific pathogens, the

module considers many disease processes and their mitigation. 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
- Case studies of immune system dysregulation and disease, including rheumatoid arthritis, multiple sclerosis, and Crohn's disease

Learning outcomes

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

- Level 5 understanding of the innate immune response
- Level 5 understanding of the adaptive immune response
- Level 5 understanding of immunological diversity
- Level 5 understanding of cytokines/cytokine receptors and their role in immune responses
- Level 5 understanding of clinical immunology
- Level 5 understanding of T and B cell mediated immunity

Indicative reading list

There are many good Immunology books for this level the course recommended is Murphy, K. M., Travers, P. and Walport, M. Janeway's Immunobiology, latest edn. (Garland Science).

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

Study

Study time

Type	Required
Lectures	15 sessions of 1 hour (7%)
Supervised practical classes	1 session of 1 hour (0%)
Other activity	10 hours (4%)
Private study	124 hours (55%)
Assessment	75 hours (33%)
Total	225 hours

Private study description

Self directed learning and revision for the final exam

Other activity description

In Module Assessment

Costs

No further costs have been identified for this module.

Assessment

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

Assessment group D

	Weighting	Study time	Eligible for self-certification
In-Module Assessment	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			
In-person Examination	70%	45 hours	No
1.5 hr exam- 45 min short answer question paper / 45 min essay based paper			

Weighting**Study time****Eligible for self-certification**

- Answerbook Green (8 page)
- Students may use a calculator

Assessment group R

	Weighting	Study time	Eligible for self-certification
In-person Examination - Resit	100%		No
45 min SAQ paper / 45 min essay paper			

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- Answerbook Green (8 page)
 - Students may use a calculator

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 LF914](#)

Availability**Courses**

This module is Core for:

- UBSA-C1B9 Undergraduate Biomedical Science
 - Year 2 of C1B9 Biomedical Science
 - Year 2 of C1B9 Biomedical Science
 - Year 2 of C1B9 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)
- ULFA-CB18 Undergraduate Biomedical Science with Placement Year
 - Year 2 of CB18 Biomedical Science with Placement Year
 - Year 2 of CB18 Biomedical Science with Placement Year
 - Year 2 of CB18 Biomedical Science with Placement Year

This module is Optional for:

- Year 2 of UCXA-VV16 Undergraduate Ancient History and Classical Archaeology
- Year 2 of ULFA-C702 Undergraduate Biochemistry (with Placement Year)
- UBSA-3 Undergraduate Biological Sciences
 - Year 2 of C100 Biological Sciences
 - Year 2 of C100 Biological Sciences
 - Year 2 of C102 Biological Sciences with Cell Biology
 - Year 2 of C103 Biological Sciences with Environmental Resources
 - Year 2 of C104 Biological Sciences with Microbiology
 - Year 2 of C105 Biological Sciences with Molecular Genetics
 - Year 2 of C107 Biological Sciences with Virology
- 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)
- ULFA-C1A8 Undergraduate Medical Microbiology and Virology with Industrial Placement (MBio)
 - Year 2 of C1A8 Medical Microbiology and Virology with Industrial Placement
 - Year 2 of C1A8 Medical Microbiology and Virology with Industrial Placement
- 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)