

BS211-12 Immunology

20/21

Department

Life Sciences

Level

Undergraduate Level 2

Module leader

Leanne Williams

Credit value

12

Module duration

5 weeks

Assessment

100% exam

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:

- By the end of the module the students should have a good understanding of the basics of the innate and adaptive immune response with a focus on the adaptive immune response and the generation of diversity. Student will be able to apply these fundamentals to the progression and mitigation of infectious disease.

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.

Understand how important the balance of the immune system is what happens when the normal status quo is disrupted in disease examples

Transferable skills

Adult learning
Self directed learning

Study

Study time

Type	Required
Lectures	15 sessions of 1 hour (12%)
Supervised practical classes	1 session of 1 hour (1%)
Private study	104 hours (87%)
Total	120 hours

Private study description

Self directed learning and revision for the final exam

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 B1

	Weighting	Study time	Eligible for self-certification
Assessment component			
Online Examination	100%		No
Option examination is essay examination. You will have 1 hour to write 2 essays out of a choice of 3 titles.			

Weighting

Study time

Eligible for self-certification

- Online examination: No Answerbook required

Reassessment component is the same

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 BS211](#)

Availability

Courses

This module is Optional for:

- UBSA-C700 Undergraduate Biochemistry
 - Year 2 of C700 Biochemistry
 - Year 2 of C700 Biochemistry
- ULFA-C1A2 Undergraduate Biochemistry (MBio)
 - Year 2 of C1A2 Biochemistry
 - Year 2 of C700 Biochemistry
- Year 2 of UBSA-C701 Undergraduate Biochemistry (with Intercalated Year)
- Year 2 of ULFA-C1A6 Undergraduate Biochemistry with Industrial Placement (MBio)
- UBSA-3 Undergraduate Biological Sciences
 - Year 2 of C100 Biological Sciences
 - Year 2 of C100 Biological Sciences
- Year 2 of ULFA-C1A1 Undergraduate Biological Sciences (MBio)
- Year 2 of UBSA-4 Undergraduate Biological Sciences (with Intercalated Year)
- Year 2 of ULFA-C1A5 Undergraduate Biological Sciences with Industrial Placement (MBio)