

# LF209-15 Blood and Circulation

**23/24**

**Department**

Life Sciences

**Level**

Undergraduate Level 2

**Module leader**

Mark Wall

**Credit value**

15

**Module duration**

5 weeks

**Assessment**

Multiple

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

The overall aim of the module is to describe the haematological system (blood and the tissues and organs associated with it) and the cardiovascular system (CVS) in an integrated manner in order to give students a good understanding of the physiology, in health and disease, of these two linked systems.

### Module aims

The overall aim of the module is to describe the haematological system (blood and the tissues and organs associated with it) and the cardiovascular system (CVS) in an integrated manner in order to give students a good understanding of the physiology, in health and disease, of these two linked systems.

### 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.

Lecture 1 and 2: Kidney structure and function Lecture 3: Cardiovascular Risk Lecture 4: Blood cells, Plasma and Serum Lecture 5: Haematopoiesis Lecture 6: Blood transfusion Lecture 7: Blood disorders Lecture 8 - Hypertension (MW) Lecture 9 - Angina Lecture 10 - Heart Failure Lecture 11

- Cardiac Arrhythmias Lecture 12 - The Pharmacology of Anti-arrhythmic drugs ECG workshop and self-directed learning

## Learning outcomes

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

- The biological principles of haematology including blood structure and homeostasis (including kidney)
- The biological basis of circulation, especially cardiac and vascular processes.
- The biological basis of neurological function, including development of the central nervous system at a cellular level.
- The functioning of these systems in both health and disease including the current treatment options for specific examples.

## Indicative reading list

Pocock G. and Richards. Human physiology : the basis of medicine, 3rd edn. (Oxford : Oxford University Press, 2006). Hugh-Jones N. C., Wickramasinghe S. N. and Hatton C. Lecture notes on Haematology, 7th edn. (Blackwell, 2004). Purves, D. et al. (Eds.) Neuroscience, 4th edn. (Sinauer, 2008)

## Subject specific skills

Explain the basics of haematology, including the role of kidney; formation, structure and function of blood cells Understand the rationale for, and biology of, blood transfusion Understand the biology of circulation through disease processes (hypertension, myocardial infarction, angina, cardiovascular disease, heart failure, arrhythmias) Explain the current treatment options for example blood and circulatory diseases

## Transferable skills

Adult learning, self-directed learning, team based learning and quantitative analysis of data.

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## Study

### Study time

| Type              | Required                    |
|-------------------|-----------------------------|
| Lectures          | 15 sessions of 1 hour (10%) |
| Practical classes | 3 sessions of 6 hours (12%) |
| Private study     | 117 hours (78%)             |
| Total             | 150 hours                   |

## Private study description

self-study and directed reading

## Costs

No further costs have been identified for this module.

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## Assessment

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

### Assessment group D2

|  | <b>Weighting</b> | <b>Study time</b> |
|--|------------------|-------------------|
| Blood and Circulation ECG Workshop<br>In-Module Laboratory           | 10%              |                   |
| Blood and Circulation Haematology task sheet<br>In-Module Laboratory | 12%              |                   |
| Blood and Circulation Haematology abstract<br>In-Module Laboratory   | 8%               |                   |
| Online Examination<br>45 min SAQ Paper / 45 Min Essay Paper          | 70%              |                   |

### Assessment group R2

|  | <b>Weighting</b> | <b>Study time</b> |
|--|------------------|-------------------|
| In-person Examination - Resit<br>45 min SAQ Paper / 45 Min Essay Paper | 100%             |                   |

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

## Feedback on assessment

Face-to-face feedback and cohort level feedback

[Past exam papers for LF209](#)

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## 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