

# MD1B2-30 Systems: Cell to Society

24/25

**Department**

Warwick Medical School

**Level**

Undergraduate Level 1

**Module leader**

Aparna Ratheesh

**Credit value**

30

**Module duration**

6 weeks

**Assessment**

40% coursework, 60% exam

**Study location**

University of Warwick main campus, Coventry

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## Description

### Introductory description

This module aims to facilitate a broad base understanding of health and medical conditions by integrating knowledge and approaches from genetics, cell and developmental biology, diagnostics, ethics, economics and health and social systems, locally and globally. This integrated perspective of health and medical conditions will be consolidated and advanced through case-based learning.

[Module web page](#)

### Module aims

This module aims to facilitate a broad base of understanding of systems as they exist from cell to society, locally and globally. Students will experience integrated perspectives of systems from the course themes which are consolidated and advanced through case-based learning.

### 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.

As this is the first integrated module experienced by students there will be an introductory flavour to some of the aspects of the module. The module will include taught content with lecture theatre-

based presentations and interactive presentations as well as case-based learning sessions, all supported by TEL online content. Students will be encouraged to re-visit and use confidently new vocabulary terminology to provide a link to the previous module.

In the medical sciences, students will be introduced to cell cycle regulation, cell division and cell communication, principals of genetics and epigenetics, elements of developmental biology and parental transfer of information, and anatomy and physiology of the cardiovascular system, bones and muscles in health and disease.

In the health sciences, core concepts such as health behaviour, different health belief models and the interrelationships of population health and health and gender will be discussed. Topics such as the ethical debates surrounding organ donation, transplant, consent and autonomy will be explored alongside professional boundaries and regulatory functions in health and care.

The cases in this module will explore contemporary examples of curable and incurable diseases and conditions. Students will consider that problem solving in health might not mean problem eradication, but management of problems in the short and long terms. Students will learn to appreciate different, sometimes competing, points of view with regard to management and how this can affect responsible, emotionally intelligent strategic plans.

## **Learning outcomes**

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

- 1. To illustrate familiarity with the key concepts, principles and theories, which will support a multidisciplinary approach to understanding of disease and systems related to health
- 2. To show a basic understanding of topics related to inheritance and the molecular and cellular basis of human development.
- 3. To describe basic aspects of human anatomy and physiology of the musculoskeletal and cardiovascular systems in health and disease.
- 4. To show awareness of approaches to modern diagnostics and precision medicine and the nature of curable and incurable disease.
- 5. To distinguish the concepts of health beliefs, behaviour and ethics and how they can impact provision of good care.
- 6. To identify scope, illustrate boundaries and highlight interrelationships within global health, public health and professional practice in health.
- 7. To develop and use reasoning skills to engage with others to individually or collectively put forward ideas that can have a positive influence on local and global challenges in health

## **Indicative reading list**

1. Alberts B., et al., (2009) Essential cell biology. 3rd edition, Taylor & Francis Inc.
2. Lewin B. (2017) Genes. 12th edition. Jones and Bartlett Publishers, Inc.
3. Tortora and Derrickson (2008) Principles of anatomy and physiology. Volume 1 & 2. 12th edition, Wiley.
4. Gilbert S.F., (2003) Developmental biology. 7th edition, Sinauer Associates Inc.
5. Marshall and Roe (2016) Health Sciences: Concepts and applications. Goodheart-Wilcox Publisher.
6. Dalal A.R., (2015) Philosophy of organ donation: review of ethical facets. World

J Transplant. 5(2): 44-51

6. Phillips S.P., (2011) including gender in public health research. Public Health Rep. 126 (Suppl 3): 1621

[View reading list on Talis Aspire](#)

### **Subject specific skills**

Knowledge and understanding of health problems relating to heritable diseases, CVS and MSK and ability to investigate such health problems from the integrated perspectives of Health Sciences and Medical Science

Ability to recognise signs and symptoms that prompts investigation into such health problems.

### **Transferable skills**

Critical thinking, Self-directed learning, evidence-based approach to problem-solving, time management, integration of information

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## **Study**

### **Study time**

<b>Type</b>	<b>Required</b>
Lectures	39 sessions of 1 hour (13%)
Seminars	27 sessions of 1 hour (9%)
Other activity	22 hours (7%)
Private study	86 hours (29%)
Assessment	126 hours (42%)
Total	300 hours

### **Private study description**

Students would be expected to engage in 212 hours of self-directed learning outside other learning and teaching activities outlined above. We anticipate that 60% of this time (126h) is spend on preparation for assessment and the remaining hours on course work and background reading.

### **Other activity description**

Technology enhanced learning, including the use of online interactive presentations and videos, quizzes

### **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 D1

	<b>Weighting</b>	<b>Study time</b>
Case Study	40%	50 hours
One essay critically reviewing a case study. The case study will include exploring the relationship between concepts as part of the case in a summary concept map which will act as an abstract for the case study.		
Multiple Choice Question Test	30%	38 hours
Comprised of 60 single best answer questions		
Synoptic Short Answer Exam	30%	38 hours
Integrates information across four modules. Questions will be single best answer and short answer questions.		

### Feedback on assessment

The case study will be marked using standardised rubrics, which will provide feedback to the students (including individualised feedback) in line with WMS assessment criteria (including submission to Plagiarism software). Further verbal feedback will be available to students on request. Every student who fails an element will be offered an appointment for face to face feedback.

[Past exam papers for MD1B2](#)

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## Availability

### Courses

This module is Core for:

- UMDA-B990 Undergraduate Health and Medical Sciences
  - Year 1 of B990 Health and Medical Sciences
  - Year 1 of B990 Health and Medical Sciences