

MD1B2-30 Systems: Cell to Society

25/26

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

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](#)

Interdisciplinary

This module takes an interdisciplinary approach by integrating knowledge from research and thinking modes across disciplines including genetics, cell and developmental biology, diagnostics, ethics, economics and health and social systems from experts in the field.

International

Students cover genetic basis of certain diseases across both local and global populations. They also consider the differences in intervention, diagnosis and treatment across different societal groups across the world as part of their group work and assessment.

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

Study

Study time

Type	Required
Lectures	39 sessions of 1 hour (13%)
Seminars	27 sessions of 1 hour (9%)
Other activity	22 hours (7%)
Private study	82 hours (27%)
Total	300 hours

Type	Required
Assessment	130 hours (43%)
Total	300 hours

Private study description

Students would be expected to engage in 82 hours of self-directed learning outside other learning and teaching activities outlined above. We anticipate that students will spend approximately 130h on preparation for assessment.

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.

Assessment

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

Assessment group D2

	Weighting	Study time	Eligible for self-certification
Synoptic coursework: exploration of a cross-module case study with accompanying concept map	40%	60 hours	No
Students will explore a patient or population case that brings in elements from all of the shared-assessment modules in this year, this will be accompanied by a concept map and narrative that will be used to explain the relationship between factors and topics covered in the case exploration.			
Systems Multiple Choice Question/Short Answer Question examination	60%	70 hours	No
Total of 100 marks. 40 MCQ single best answer questions at 1 mark each, 60 marks from SAQs.			

Feedback on assessment

The coursework 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](#)

Availability

Courses

Course availability information is based on the current academic year, so it may change.

This module is Core for:

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