

Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	Biomedical Basis and Epidemiology of Human Disease
Unit ID:	MONCI3002
Credit Points:	30.00
Prerequisite(s):	(MONCI1001 and MONCI1002 and MONCI1003 and MONCI2001)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	019901

Description of the Unit:

This unit will have a combined approach and examine the biomedical and epidemiological impacts of human disease on society. It will concentrate on the pathobiological and biomedical basis of prevalent human disease processes. Relevant areas examined in this unit may change from year to year but will generally include immune and inflammatory diseases, (e.g. inflammatory renal and joint disease); cancer biology (focussing on mechanisms of tumour spread); cardiovascular biology, (coronary heart disease/cerebrovascular disease); diabetes, obesity and neurological diseases. Disease pathogenesis, including lessons gained from cell/molecular biology and disease models will be the major focus. Concurrently, the epidemiological/clinical features of each disease, current treatments, challenges and future treatment prospects, including clinical trials will be covered highlighting the importance of an evidence-based approach to health care. This will discuss the complexities behind treatment based decision making by reviewing the evidence- base and understanding the criteria for deciding on what is best evidence. This unit will consider the biomedical basis and epidemiology in the context of the Australian health care system, including the Pharmaceutical Benefits Scheme (PBS), health policy and service delivery systems, putting illness and health in the context of social, cultural and behavioural systems.

Grade Scheme: Graded (HD, D, C, P, MF, F, XF)

Work Experience:

No work experience: Student is not undertaking work experience in industry.

Placement Component: No

Supplementary Assessment: No

Supplementary assessment is not available to students who gain a fail in this Unit.

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Introductory	■	■	■	■	■	■
Intermediate	■	■	■	■	■	■
Advanced	■	■	✓	■	■	■

Learning Outcomes:

Knowledge:

- K1.** Integrate and apply knowledge from previous core units in the study of specific human diseases.
- K2.** Describe and distinguish between the pathobiological processes related to disease.

Skills:

- S1.** Demonstrate sophisticated interpretation and application of epidemiological methods and principles and discuss critically and cite evidence for the impact of disease on the individual and society.
- S2.** Critically assess the epidemiological quality of research in a range of studies outlining the basis of your methodological approach and criteria for determining the quality of the research.
- S3.** Synthesise and critically analyse medical literature to discover future challenges in disease pathogenesis and treatment.
- S4.** Further develop research skills including collaborative team work, clear communication and interpersonal skills as well as critical thinking and writing skills.

Application of knowledge and skills:

- A1.** Recognise and cite evidence for how biomedical research, including cell biology, animal models of disease and human studies are important in defining the pathogenesis of disease and the optimal treatment of disease in a public health context;
- A2.** Identify and evaluate the contribution of the epidemiological studies involved in prevention, diagnosis and treatment of specific diseases and justify your reasoning.

Unit Content:

This unit will have a combined approach and examine the biomedical and epidemiological impacts of human disease on society. It will concentrate on the pathobiological and biomedical basis of prevalent human disease processes. Relevant areas examined in this unit may change from year to year but will generally include immune and inflammatory diseases, (e.g. inflammatory renal and joint disease); cancer biology (focussing on mechanisms of tumour spread); cardiovascular biology, (coronary heart disease/cerebrovascular disease); diabetes, obesity and neurological diseases. Disease pathogenesis, including lessons gained from cell/molecular biology and disease models will be the major focus. Concurrently, the epidemiological/clinical features of each disease, current treatments, challenges and future treatment prospects, including clinical trials will be covered highlighting the importance of an evidence-based approach to health care. This will discuss the complexities behind treatment based decision making by reviewing the evidence- base and understanding the criteria for deciding on what is best evidence. This unit will consider the biomedical basis and epidemiology in the context of the Australian health care system, including the Pharmaceutical Benefits Scheme (PBS), health policy and service delivery systems, putting illness and health in the context of social, cultural and behavioural systems.

Learning Task and Assessment:

Assessment Tasks	Assessment Type	Weighting
In-semester activities	Online Quiz	10
Small group activities	Tutorial tasks	15
Systematic review	Oral and written presentation	30
Examination	Examination	45

Adopted Reference Style:

Australian Harvard

Refer to the [library website](#) for more information

Fed Cite - [referencing tool](#)