Unit Outline (Higher Education)

Institute / School: Institute of Innovation, Science & Sustainability

Unit Title: Molecular Mechanisms of Disease

Unit ID: MONCI3001

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 provide insights into the molecular mechanisms that mediate human diseases and the specific biotechnologies used to facilitate diagnosis and treatment. Relevant areas studied in this unit may change from year to year but will generally include a number of topics related to pharmacology, cancer, cardiovascular disease, development and stem cells, infection and immunity, metabolic disease and obesity, and neuroscience. The small group work in the unit is designed to build employability skills for graduates. Emphasis is placed on critical thinking, research skills and on communication skills in the context of biomedical research.

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

Work Experience:

No work experience

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						

Level of Unit in Course	AQF Level of Course					
	5	6	7	8	9	10
Advanced			✔			

Learning Outcomes:

Skills:

S1. Discuss and evaluate the role of molecular techniques in the diagnosis of human diseases and the design of targeted therapies or specific treatments.

S2. Explain and predict the principles of pharmacokinetics and how these can influence the therapeutic use of drugs.

S3. Explore and analyse how patient factors (including genetics) can lead to interindividual variation in responses to drugs.

S4. Describe and apply skills required to undertake biomedical research activities and apply this to develop a career plan.

S5. Synthesise, integrate and summarise information from fundamental principles and techniques in biomedical sciences, then apply it to broader contexts.

S6. Work effectively and collaboratively in small teams and evaluate peer and self-performance.

S7. Present data and scientific ideas, in oral, written and visual forms using scientific language or plain English as appropriate.

Application of knowledge and skills:

A1. Integrate, apply and build upon knowledge from previous core units in the study of the molecular mechanisms and defects that cause human disease, including how developmental errors and gene abnormalities may lead to abnormalities in protein structure and function.

Unit Content:

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Learning Task and Assessment:

Assessment Tasks	Assessment Type	Weighting
Workshop assessments	Various	41
Professional development	Written and/ or practical task	2
In-semester tests	Test	27
End of semester exam	Examination	30

Adopted Reference Style:

Australian Harvard

Refer to the library website for more information

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