Unit Outline (Higher Education)

Institute / School:	Institute of Innovation, Science & Sustainability
Unit Title:	PHARMACOLOGY AND TOXICOLOGY
Unit ID:	SCMED3010
Credit Points:	15.00
Prerequisite(s):	(SCMED2011)
Co-requisite(s):	Nil
Exclusion(s):	Nil
ASCED:	019907

Description of the Unit:

Pharmacology is the study of drugs and how they work and has its roots in therapeutics, which aims to reduce the adverse effects of disease. Drug action can only be understood in the context of what else is happening in the body. Consequently this unit will require you to draw on the knowledge you bring from previous study of pathophysiology, immunology and genomics. Therapeutics have a high rate of obsolescence, so particular attention in this unit is devoted to an appreciation of mechanisms of action of drug classes and in arming you with the basic knowledge and know-how that you will require to keep up with this rapidly changing field.

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: Yes

Where supplementary assessment is available a student must have failed overall in the Unit but gained a final mark of 45 per cent or above, has completed all major assessment tasks (including all sub-components where a task has multiple parts) as specified in the Unit Description and is not eligible for any other form of supplementary assessment

Course Level:

Level of Unit in Course	AQF Level of Course					
	5	**6**	**7**	**8**	**9**	**10**
Introductory	☐	☐	☐	☐	☐	☐

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

Learning Outcomes:

Knowledge:

K1. Justify the need for pharmaceuticals

K2. Describe the various classes of drug target and types of chemical mediators

K3. Describe the processes of drug absorption, distribution, metabolism and elimination

K4. Distinguish the action of drugs on selected major organ systems

Skills:

S1. Analyse pharmacokinetic data in terms of absorption, distribution, metabolism and elimination

S2. Develop skills to find, interpret, evaluate and communicate information about drugs

S3. Evaluate methods and approaches to assessing drug action and toxicity

Application of knowledge and skills:

A1. Measure drug action and/or toxicity in the laboratory

A2. Critically evaluate scientific data

Unit Content:

This unit introduces fundamental concepts and knowledge in pharmacology and toxicology. There is an emphasis on molecular and cellular effects of drugs, drug targets, mechanisms of action and drug-receptor interactions. Examples are drawn from drugs affecting the immune system, the heart and vascular system, nervous system and other organ systems. Unwanted side-effects, drug toxicity and safety are considered in the context of mechanisms of drug action, time and dose-dependent factors determining drug action and efficacy and the importance of measurement and experimentation in pharmacology.

FEDTASKS

Federation University Federation recognises that students require key transferable employability skills to prepare them for their future workplace and society. FEDTASKS (**T**ransferable **A**ttributes **S**kills and **K**nowledge) provide a targeted focus on five key transferable Attributes, Skills, and Knowledge that are be embedded within curriculum, developed gradually towards successful measures and interlinked with cross-discipline and Co-operative Learning opportunities. *One or more FEDTASK, transferable Attributes, Skills or Knowledge must be evident in the specified learning outcomes and assessment for each FedUni Unit, and all must be directly assessed in each Course.*

FEDTASK attribute and descriptor	Development and acquisition of FEDTASKS in the Unit	
	Learning Outcomes (KSA)	Assessment task (AT#)

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		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 1 Interpersonal	Students will demonstrate the ability to effectively communicate, inter-act and work with others both individually and in groups. Students will be required to display skills in-person and/or online in: • Using effective verbal and non-verbal communication • Listening for meaning and influencing via active listening • Showing empathy for others • Negotiating and demonstrating conflict resolution skills • Working respectfully in cross-cultural and diverse teams.	S2	AT1, AT4
FEDTASK 2 Leadership	Students will demonstrate the ability to apply professional skills and behaviours in leading others. Students will be required to display skills in: • Creating a collegial environment • Showing self -awareness and the ability to self-reflect • Inspiring and convincing others • Making informed decisions • Displaying initiative	Not applicable	Not applicable
FEDTASK 3 Critical Thinking and Creativity	Students will demonstrate an ability to work in complexity and ambiguity using the imagination to create new ideas. Students will be required to display skills in: • Reflecting critically • Evaluating ideas, concepts and information • Considering alternative perspectives to refine ideas • Challenging conventional thinking to clarify concepts • Forming creative solutions in problem solving.	K1, S1, S3, A2	AT1, AT2, AT3

FEDTASK attribute and descriptor		Development and acquisition of FEDTASKS in the Unit	
		Learning Outcomes (KSA)	Assessment task (AT#)
FEDTASK 4 Digital Literacy	Students will demonstrate the ability to work fluently across a range of tools, platforms and applications to achieve a range of tasks. Students will be required to display skills in: • Finding, evaluating, managing, curating, organising and sharing digital information • Collating, managing, accessing and using digital data securely • Receiving and responding to messages in a range of digital media • Contributing actively to digital teams and working groups • Participating in and benefiting from digital learning opportunities.	S1	AT2
FEDTASK 5 Sustainable and Ethical Mindset	Students will demonstrate the ability to consider and assess the consequences and impact of ideas and actions in enacting ethical and sustainable decisions. Students will be required to display skills in: • Making informed judgments that consider the impact of devising solutions in global economic environmental and societal contexts • Committing to social responsibility as a professional and a citizen • Evaluating ethical, socially responsible and/or sustainable challenges and generating and articulating responses • Embracing lifelong, life-wide and life-deep learning to be open to diverse others • Implementing required actions to foster sustainability in their professional and personal life.	K1	AT4

Learning Task and Assessment:

Learning Outcomes Assessed	Assessment Tasks	Assessment Type	Weighting
S2, S3	Drug information sheet	Written assignment	20-40%
K1, K2, K4, S1	Computer simulations	Practical	10-20%
A1, A2	Laboratory experiment	Practical	10-20%
K1-4, S1-3	Test	Online test	40-60%

Adopted Reference Style:

APA

Refer to the library website for more information

Fed Cite - [referencing tool](#)