

NATS 2027 PHARMACOLOGY

Credit Points 10

Legacy Code 300884

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Description Pharmacology is the study of the therapeutic interactions of drugs with the human body, focusing on mechanisms of action at the biochemical and cellular level, on adverse reactions and on clinical applications. This unit provides students with a sound understanding of fundamental aspects of this field to prepare for further study of advanced pharmacology or other biomedical sciences. General principles of pharmacokinetics and pharmacodynamics, will be discussed in detail. The major drug categories that affect different organ systems will be addressed, and research methods in pharmacology and the drug development process will also be introduced.

School Science

Discipline Pharmacology

Student Contribution Band HECS Band 2 10cp

Check your HECS Band contribution amount via the Fees (https://www.westernsydney.edu.au/currentstudents/current_students/fees/) page.

Level Undergraduate Level 2 subject

Pre-requisite(s) BIOS 1025 OR

BIOS 1026 OR

BIOS 1033 OR

BIOS 1033

Equivalent Subjects NATS 2026 - Pharmacology

Incompatible Subjects NATS 2008 - Clinical Pharmacology LGYA 7037 - Clinical Pharmacology and Microbiology

Assumed Knowledge

Introductory biochemistry and general anatomy and physiology of the major body systems such as central and peripheral nervous systems, cardiovascular, respiratory, digestive, endocrine, and urinary systems.

Learning Outcomes

On successful completion of this subject, students should be able to:

1. explain basic concepts and principles of pharmacokinetics and pharmacodynamics
2. Evaluate and discuss research methods in pharmacology
3. explain the process of drug development and evaluation
4. analyse the pharmacological actions and mechanisms of the major drug categories affecting human body systems
5. discuss the clinical uses of each drug category
6. explain the types of adverse drug reactions and drug interactions

Subject Content

1. Introduction to pharmacology
2. General principles of pharmacodynamics
3. General principles of pharmacokinetics
4. Drug development and research methods
5. Autonomic pharmacology
6. Neuropharmacology

7. Endocrine pharmacology
8. Cardiovascular pharmacology
9. Respiratory pharmacology
10. Anti-inflammatory drugs
11. Renal pharmacology
12. Gastrointestinal pharmacology
13. Chemotherapy
14. Anticancer drugs

Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

Item	Length	Percent	Threshold	Individual/ Group Task
Mid-Semester Test (Online; vUWS)	60 minutes	20	N	Individual
Written Assignment	Maximum 1,500 words	20	N	Individual
Online Tutorial Class Participation	2 hours/week	10	N	Individual
Final Exam (Online; vUWS)	2 hours	50	N	Individual

Prescribed Texts

- George M. Brenner & Craig W. Stevens (2018) Pharmacology. 5th Edition: Elsevier Saunders, Philadelphia,

Teaching Periods