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The published on-line version of the Course Profile is the authoritative version and by the publication of the Course Profile on-line the University deems the student has been notified of and read the course requirements.

1. General Course Information

1.1 Course Details

COURSE CODE	2018PHM
COURSE TITLE	Pharmacology
ACADEMIC ORGANISATION	PHM School of Pharmacy and Pharmacology
TRIMESTER	Trimester 1 2020
MODE	In Person
LEVEL	Undergraduate
LOCATION	Gold Coast, On Campus
CREDIT POINT VALUE	10

Course Description:

This course introduces students to important concepts in Pharmacology. The major topic areas will provide an in depth understanding of drug targets, pharmacodynamics, pharmacokinetics and pharmacogenomics. Basic concepts in adverse drug reactions, drug interactions, toxicology and complementary medications will be introduced. The course will comprise lectures, workshops and laboratories. Pharmacology is a fundamental course that brings together chemistry and biology to understand the basis of drug effect. Pre-requisites: There are no pre-requisites for this course, however students will require a good understanding of tertiary level physiology, anatomy, chemistry and mathematics. Incompatible - 3002MSC Pharmacology

Assumed Background:

A sound knowledge and understanding of tertiary level physiology, anatomy, chemistry and mathematics is expected.

1.2 Course Introduction

This course is designed for students to achieve an understanding of pharmacological principles including mechanisms of drug action, and the four stages of drug life within the body: drug absorption, distribution, metabolism and excretion. The course will allow students to become proficient in the principles of pharmacodynamics, pharmacokinetics, pharmacogenomics as well as becoming familiar with the neurotransmitters and their pathophysiological roles, autonomic nervous system, gastrointestinal system and associated drugs. This course includes a number of intense workshops and tutorials to provide students with an opportunity to apply knowledge and skills.

Previous Student Feedback

The course was interesting and well organised.

Outlines for the quizzes will be more detailed in this offering of the course based on prior feedback.

1.3 Course Staff

Convenor **Dr Devinder Arora**

PHONE	(07) 555 29740
EMAIL	d.arora@griffith.edu.au
CAMPUS	Gold Coast Campus
BUILDING	Clinical Science 2 (G16)
ROOM	3.21
CONSULTATION	By appointment

Lecturer **Assoc Prof Shailendra Dukie**

EMAIL	s.dukie@griffith.edu.au
CAMPUS	Gold Coast Campus
BUILDING	Clinical Science 2 (G16)
ROOM	4.23A
CONSULTATION	By Appointment

Lecturer **APro Gary Grant**

EMAIL	g.grant@griffith.edu.au
CAMPUS	Gold Coast Campus
BUILDING	Clinical Science 2 (G16)
ROOM	4.22
CONSULTATION	By appointment

1.4 Timetable

Timetables are available on [the Programs and Courses website](#).

NB: Details contained in this section of the course profile and section 4.1 Learning Activities are to be read in conjunction with the official class timetable. The published class timetable which is the authoritative source for timetabling information for all campuses can be located by clicking on the link above.

Additional Timetable Information

Refer to Learning@Griffith for specific information relating to teaching weeks.

1.5 Lecture Capture

It is standard practice at Griffith University that lectures timetabled in lecture capture-enabled venues are recorded and made available to students on the relevant course site, in accordance with the University's [Lecture Capture Policy](#).

The lecture series delivered as part of this course will be recorded and accessible via the Learning@Griffith course site.

2. Aims, Outcomes & Graduate Attributes

2.1 Course Aims

The course is designed for students to achieve an introductory understanding of basic pharmacological principles including the general mechanisms of drug action and the four stages of drug life within the body, namely: drug absorption, distribution, metabolism and excretion. The course will introduce students to the principles of pharmacokinetics, pharmacogenomics and toxicology, and the body's neurotransmitter systems. The effects of drugs on the autonomic nervous system will be used to illustrate the importance of basic pharmacological principles. This course will also provide an overview of the following pharmacological targets: NANC, serotonin, dopamine, GABA and glutamate. This course provides an essential platform for further study in pharmacology and pharmacotherapeutics.

2.2 Learning Outcomes

After successfully completing this course you should be able to:

- 1 Explain the concepts of pharmacodynamics which describe drug action
- 2 Discuss the concepts of pharmacokinetics to understand drug dosing regimens
- 3 Apply pharmacological principles to interpret drug information
- 4 Illustrate how neurotransmission (noradrenaline, acetylcholine, serotonin, dopamine, GABA, glutamate, NANC, eicosanoids, and histamine) and associated effects are manipulated by drugs
- 5 Interpret adverse drug reactions and drug interactions which influence drug action
- 6 Describe the concepts of pharmacogenomics affecting individual patient response to medicines
- 7 Recall basic principles of toxicology in context to drugs

2.3. Graduate Attributes

For further details on the Griffith Graduate please [click here](#)

Griffith University prepares influential graduates to be:

- [Knowledgeable and skilled, with critical judgement](#)
- [Effective communicators and collaborators](#)
- [Innovative, creative and entrepreneurial](#)
- [Socially responsible and engaged in their communities](#)
- [Culturally capable when working with First Australians](#)
- [Effective in culturally diverse and international environments](#)

This table demonstrates where each of the Griffith Graduate Attributes is taught, practised and assessed in this course.

For further details on the Griffith Graduate Attributes please refer to [The Griffith Graduate policy](#).

University wide attributes

GRADUATE ATTRIBUTE	TAUGHT	PRACTISED	ASSESSED
Knowledgeable and skilled, with critical judgement	•	•	•
Effective communicators and collaborators	•	•	•
Innovative, creative and entrepreneurial	•	•	•

3. Learning Resources

3.1 Required Resources

Details of your Required Learning Resources are available from the [Reading List](#).

3.2 Recommended Resources

Details of your Recommended Learning Resources are available from the [Reading List](#).

3.3 University Learning Resources

The University provides many facilities and support services to assist students in their studies. Links to information about University support resources that are available to students are included below for easy reference.

[Readings](#) - New online service enabling students to access Required and Recommended Learning resources. It connects to the library catalogue to assist with quickly locating material held in Griffith libraries and enables students to manage and prioritise their readings, add personal study notes and export citations.

[Learning@Griffith](#) - there is a dedicated website for this course via the Learning@Griffith at myGriffith.

[Academic Integrity Tutorial](#) - this tutorial helps students to understand what academic integrity is and why it matters. You will be able to identify types of academic misconduct, understand what skills you will need in order to maintain academic integrity, and learn about the processes of referencing styles.

[Student Services](#) provides a range of services to support students throughout their studies including personal support such as Counselling and Health Services; Academic support; and Financial and Welfare support.

[Careers and Employment Service](#) can assist all enrolled students and recent graduates with career direction, course uncertainty, interview preparation, job search tips, LinkedIn reviews and much more. Our [Unitemps Recruitment Service](#) can assist you with finding paid casual work while you study.

[Library and Learning Services](#): Library and Learning Services provides a wide range of quality client-focused services and programs to students, researchers and staff of the University. Library and Learning Services works in collaboration with the academic community to achieve academic and research outcomes.

[Support for learning](#) - the University provides access to common use computing facilities for educational purposes.

[Code of Practice](#) - Griffith Information Technology Resources.

3.5 Other Learning Resources & Information

Refer to Learning@Griffith for course specific information.

4. Teaching & Learning Activities

4.1 Learning Activities

Lectures

Week Commencing	Activity	Learning Outcomes
24 Feb 20	Week 1 (Lecture): Course overview Introduction to Pharmacology Quantitative Pharmacodynamics	1, 3
2 Mar 20	Week 2 (Lecture): Pharmacodynamics & Drug Targets	1, 3, 4
9 Mar 20	Week 3 (Lecture): Introduction to neurotransmission Overview of Autonomic & Somatic Nervous System Dopamine, Serotonin, GABA & Glutamate neurotransmission	1, 3, 4
16 Mar 20	Week 4 (Lecture): Dopamine, Serotonin, GABA & Glutamate neurotransmission	1, 3, 4
23 Mar 20	Week 5 (Lecture): Pharmacokinetics - Mechanisms, Profiles & Parameters	2
30 Mar 20	Week 6 (Lecture): Pharmacokinetics - Mechanisms, Profiles & Parameters	2
13 Apr 20	Week 7 (Lecture): Adverse Drug Reactions & Drug Interactions, Principles of Pharmacogenomics	1, 2, 3, 5
20 Apr 20	Week 8 (Lecture): Mid-trimester exam Adverse Drug Reactions & Drug Interactions, Principles of Pharmacogenomics	1, 2, 3, 4, 5, 6, 7
27 Apr 20	Week 9 (Lecture): Drugs affecting Cholinergic, Somatic, and Adrenergic Systems	1, 2, 3, 4, 5, 6, 7
4 May 20	Week 10 (Lecture): Drugs affecting Cholinergic, Somatic, and Adrenergic Systems	1, 2, 3, 4, 5, 6, 7
11 May 20	Week 11 (Lecture): Applied Pharmacodynamics & Pharmacokinetics: Application of pharmacodynamics & pharmacokinetics concepts to specific pharmacological classes and associated drug examples	1, 2, 3, 4, 5, 6, 7
18 May 20	Week 12 (Lecture): Pending topics & Revision THIS SERVES AS A GUIDE AND IS SUBJECT TO CHANGE.	1, 2, 3, 4, 5, 6, 7

Tutorials/Workshops

Week Commencing	Activity	Learning Outcomes
2 Mar 20 - 20 May 20	Tutorial/Workshops (Workshop): Tutorials/Workshops (Tutorial): There is no tutorial in week 1. Tutorials will be held in weeks 2 - 12. Tutorials/workshops will cover material from preceding lectures.	1, 2, 3, 4, 5, 6, 7

4.2 Other Teaching and Learning Activities Information

Lectures provide the main platform for delivery of content and students should contribute to discussions and actively question in order to maximize applications and amalgamation of key concepts. This course is presented through online lectures, and face-to-face lectures and workshops. Attendance at lectures and workshops is highly recommended as these are interactive sessions that develop understanding. Workshops are designed to facilitate student learning, application and understanding of the course material. **It is the responsibility of the students who miss course components to obtain the material covered.** Learning aids and course communication will be provided to students through Learning@Griffith.

5. Assessment Plan

5.1 Assessment Summary

This is a summary of the assessment in the course. For detailed information on each assessment, see [5.2 Assessment Detail](#) below.

ASSESSMENT TASK	DUE DATE	WEIGHTING	MARKED OUT OF	LEARNING OUTCOMES	MAXIMUM EXTENSION PERIOD
<i>Test or quiz</i> Workshop assessment (x5)	16 Mar 20 08:00 - 22 May 20 17:00 Available through L@G	20%	20 marks (x5)	1, 2, 3, 4, 5, 6, 7	
<i>Test or quiz</i> Mid-Trimester Test	22 Apr 20 10:00 - 22 Apr 20 11:00 Refer to Learning@Griffith for more detailed information on this assessment.	30%	50 marks	1, 2, 3, 4, 5, 6	
<i>Exam - selected and constructed responses</i> End of Trimester Exam	Examination Period	50%	100 marks (Must achieve a min of 50 out of 100)	1, 2, 3, 4, 5, 6, 7	

5.2 Assessment Detail

Title: Workshop assessment (x5)

Type: Test or quiz

Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6, 7

Due Date:

16 Mar 20 08:00 - 22 May 20 17:00 Available through L@G

Weight: 20%

Marked out of: 100

Task Description:

Quizzes form the continuous assessment component for the course. Students must complete 5 quizzes (20 marks each). First 2 quizzes will be supervised and will be administered in the last 60 minutes of scheduled workshop times, whereas the remaining 3 quizzes will be online. Quizzes will be conducted in weeks 2, 4, 6, 8, 10.

The quizzes assess the pharmacology specific knowledge covered in the modules/topics delivered in 2018PHM Pharmacology. Quizzes include: multiple-choice single answer, multiple-choice multiple-answer, short answer, and essay questions.

Students are required to apply information acquired in lectures and workshops to answer questions and solve problems. The objective of these assessments is to encourage students to gradually build their pharmacology knowledge and skills and reflect on their progress prior to other major assessments.

Criteria & Marking:

Students must demonstrate progressive comprehension of completed topics. This includes demonstrated knowledge of mechanisms of drug action, pharmacokinetics, adverse drug reactions, contra-indications and potential drug interactions. Detailed criteria (relating to module learning objectives) is made available online through Learning@Griffith.

Submission: Via the 'Assignments' tool in Learning@Griffith. In Person at the School Department. Available on Learning@Griffith

This assessment item:

- is a school based activity
- is an individual activity
- does not include a self assessment activity
- does not have a re-attempt provision

Title: Mid-Trimester Test

Type: Test or quiz

Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6

Due Date:

22 Apr 20 10:00 - 22 Apr 20 11:00 Refer to Learning@Griffith for more detailed information on this assessment.

Weight: 30%

Marked out of: 50

Task Description:

Students are required to complete one mid-trimester test (5 min perusal; 45 min working time). Test includes multiple-choice, short answer, and long answer questions related to pharmacodynamics and pharmacokinetics. This assessment item serves to provide students with early feedback on their progress in the course.

Criteria & Marking:

Students are required to demonstrate comprehension and understanding of pharmacodynamics and pharmacokinetics. Multiple-choice questions are designed to assess fundamental knowledge, particularly relevant to everyday practice. Short and long answer questions are designed to assess the students ability to integrate and apply knowledge gained in the course. Although assessment is principally factual, students must demonstrate the ability to apply knowledge. Detailed criteria is made available online through Learning@Griffith.

Submission: In Person at the School Department. Submitted in person at the end of the scheduled assessment item.

This assessment item:

- is a school based activity

- is an individual activity
- does not include a self assessment activity
- does not have a re-attempt provision

Title: End of Trimester Exam

Type: Exam - selected and constructed responses

Learning Outcomes Assessed: 1, 2, 3, 4, 5, 6, 7

Due Date:

Examination Period

Weight: 50%

Marked out of: 100

Perusal: 10 minutes

Duration: 120 minutes

Format: Closed Book

Task Description:

Students are required to complete an end of trimester examination. The examination assesses student achievement of the relevant learning outcomes in relation to the content areas covered in this course. The examination will be drawn from the lectures, workshops, laboratories, assigned readings, handouts, class discussions and guest presentations. The assessment item includes multiple-choice, short answer and essay questions.

Criteria & Marking:

This assessment item will exam the students comprehension and understanding of all content covered during the semester. Students must demonstrate ability to apply to knowledge, particularly relating to mechanisms of drug action, adverse drug reactions, contra-indications and potential drug interactions. This will be assessed through multiple-choice question, short answer questions and an essay question. More detailed criteria for this assessment item will be made available through Learning@Griffith.

This assessment item:

- is a centrally organised activity
- is an individual activity
- does not include a self assessment activity
- contains a mandatory pass component - refer to section 5.4 for further details

5.3 Late Submission

An assessment item submitted after the due date, without an approved extension, will be penalised. The standard penalty is the reduction of the mark allocated to the assessment item by 5% of the total weighted mark for the assessment item, for each working day that the item is late. A working day will be defined as Monday to Friday. Assessment items submitted more than five working days after the due date will be awarded zero marks. To understand how the mark is reduced please refer to [Assessment Submission and Return Procedures](#)

5.4 Other Assessment Information

Griffith University Disclosure Statement

The University shall provide reasonable adjustments to assessment for students with disabilities consistent with the Disabilities Standards for Education 2005, while maintaining the academic integrity of its programs. Adjustments shall be made on an individual basis. Please refer to this policy as it sets out the principles and processes that guide the University [Reasonable Adjustments for Assessment - Students with Disabilities](#)

Supplementary Assessment is available in this course in accordance with [Section 8 of the University Assessment Policy](#). To achieve a Pass grade for the course a pass mark for the supplementary assessment item must be achieved. Students are required to submit all assessment items for this course to be eligible for a supplementary assessment.

Final Grades

A student's final grade for this course will be based on the aggregation and weighting of marks across assessment, any mandatory pass components and grade cut-offs. Grade cut-offs can vary, so you will need to wait for the official release of grades to be sure of your grade for this course.

- This course is a graded course (i.e 7, 6, 5, 4, 3, 2, 1).
- This course contains mandatory pass components.

Mandatory pass component

To be eligible to pass this course, students must:

1. achieve an overall pass mark for this course
2. submit the assessment task: End of Trimester Exam
3. achieve a minimum percentage mark of 50% [min 50 out of 100 for 'End of Trimester Exam']

6. Policies & Guidelines

This section contains the details of and links to the most relevant policies and course guidelines. For further details on University Policies please visit the [Policy Library](#)

6.1 Assessment Related Policies and Guidelines

University Policies & Guidelines

The University's assessment-related policies can be found in the [Griffith Policy Library](#).

The Assessment policy covers topics including: assessment requirements; award of grades; supplementary assessment; special consideration; extensions and deferred assessment; conduct of students in examinations; cheating; plagiarism; notification of results; appeals against the award of grades.

Academic Integrity

Student academic misconduct encompasses all behaviour:

- involving the misrepresentation of academic achievement; or
- undermining the core values (honesty, trust, fairness, respect and responsibility) of academic integrity; or
- breaching academic integrity;

whether intentional or unintentional. Student academic misconduct includes doing as well as attempting to do any of the acts, omissions or things that constitute academic misconduct.

Student academic misconduct is defined in the [Institutional Framework for Promoting Academic Integrity among Students](#).

Please also refer to the [Student Academic Misconduct Policy](#).

Reasonable Adjustments for Assessment - Students with Disabilities Policy

The [Reasonable Adjustments for Assessment - Students with Disabilities](#) Policy sets out the principles and processes that guide the University in making reasonable adjustments to assessment for students with disabilities while maintaining the academic integrity of its programs.

Griffith University Disclosure Statement

The [Griffith University Disclosure Statement](#) has been developed to identify and negotiate whether necessary and reasonable accommodations and adjustments can be made, wherever possible, to enable students with disabilities and/or health conditions to undertake required learning activities. Course Convenors are encouraged to reference the Griffith University Disclosure Statement in the Learning Activities and Assessment Plan sections of their course profiles.

Assessment, how to submit an assignment and exams, viewing your grades

All you need to know about [assessment, exams and grades](#)

Text Matching Software

The University uses text matching software. Students should be aware that your Course Convenor may use software to check submitted assessment tasks. If this is the case, your Course Convenor will provide more detailed information about how the software will be used for individual assessment items.

Related links:

- [Academic Integrity website](#)
- [Academic Standing, Progression and Exclusion Policy](#)
- [Assessment Policy](#)
- [Assessment Submission and Return Procedures](#)
- [End of Trimester Centrally Administered Examinations Policy and Procedures](#)
- [Governance of Assessment and Academic Achievement Standards](#)
- [Standards for First Year Assessment](#)
- [Institutional Framework for Promoting Academic Integrity among Students](#)
- [Student Academic Misconduct Policy](#)

PHM School of Pharmacy and Pharmacology

Assessment Guidelines

The American Psychological Association Referencing Style (6th Edition) [APA 6] is the preferred standard for this course.

6.2 Other Policies and Guidelines

University Policies and Guidelines

Students are responsible for ensuring that they have read all sections of the Course Profile for the course/s in which they are enrolled in any enrolment period. The published online version of the Course Profile is the authoritative version and by the publication of the Course Profile online, the University deems the student has been notified of and read the course requirements. Variations to the Course Profile during the trimester of offer are not permitted except in exceptional circumstances and will be advised in writing to all enrolled students and via the [Learning@Griffith](#) website. Additional information regarding the content of this course may be published on the [Learning@Griffith](#) website.

Copyright matters

Copyright applies to all teaching materials and materials generated by students which substantially relate to Griffith University courses. *Students are warned against selling Griffith University teaching materials and their student notes online through commercial websites during and after their studies.* You will almost certainly be in breach of copyright law and Griffith's IT Code of Practice if you post these materials on the internet and commercial websites. Please refer to the [Copyright Guide for Students](#) for further information.

Health and Safety

Griffith University is committed to providing a safe work and study environment. However, all students, staff and visitors have an obligation to ensure the safety of themselves and those whose safety may be affected by their actions. Staff in control of learning activities will ensure as far as reasonably practical, that those activities are safe and that all safety obligations are being met. Students are required to comply with all safety instructions and are requested to report safety concerns to the University.

General health and safety information is available on the [Health, Safety and Wellbeing](#) website.

Other Key Student-Related Policies

All University policy documents are accessible to students via the [Griffith Policy Library](#) and links to key policy documents, in addition to those listed in 6.1 above, are included below for easy reference:

- [Student Communications Policy](#)
- [Health and Safety Policy](#)
- [Student Administration Policy](#)
- [Student Charter](#)

- [Student Review and Appeals Policy](#)
- [Student Review and Appeals Procedures](#)
- [Student Complaints Policy](#)

Learning Summary

Below is a table showing the relationship between the learning outcomes for this course, the learning activities used to develop each outcome and the assessment task used to assess each outcome.

Learning Outcomes

After successfully completing this course you should be able to:

- 1 Explain the concepts of pharmacodynamics which describe drug action
- 2 Discuss the concepts of pharmacokinetics to understand drug dosing regimens
- 3 Apply pharmacological principles to interpret drug information
- 4 Illustrate how neurotransmission (noradrenaline, acetylcholine, serotonin, dopamine, GABA, glutamate, NANC, eicosanoids, and histamine) and associated effects are manipulated by drugs
- 5 Interpret adverse drug reactions and drug interactions which influence drug action
- 6 Describe the concepts of pharmacogenomics affecting individual patient response to medicines
- 7 Recall basic principles of toxicology in context to drugs

Assessment & Learning Activities

LEARNING ACTIVITIES	LEARNING OUTCOMES						
	1	2	3	4	5	6	7
Week 1 (Lecture)	•		•				
Week 2 (Lecture)	•		•	•			
Week 3 (Lecture)	•		•	•			
Week 4 (Lecture)	•		•	•			
Week 5 (Lecture)		•					
Week 6 (Lecture)		•					
Week 7 (Lecture)	•	•	•		•		
Week 8 (Lecture)	•	•	•	•	•	•	•
Week 9 (Lecture)	•	•	•	•	•	•	•
Week 10 (Lecture)	•	•	•	•	•	•	•
Week 11 (Lecture)	•	•	•	•	•	•	•
Week 12 (Lecture)	•	•	•	•	•	•	•
Tutorial/Workshops (Workshop)	•	•	•	•	•	•	•

ASSESSMENT TASKS

LEARNING ACTIVITIES	LEARNING OUTCOMES						
	1	2	3	4	5	6	7
Workshop assessment	•	•	•	•	•	•	•
Mid-Trimester Test	•	•	•	•	•	•	
End of Trimester Exam	•	•	•	•	•	•	•

Graduate Attributes

For further details on the Griffith Graduate please [click here](#)

Griffith University prepares influential graduates to be:

- [Knowledgeable and skilled, with critical judgement](#)
- [Effective communicators and collaborators](#)
- [Innovative, creative and entrepreneurial](#)
- [Socially responsible and engaged in their communities](#)
- [Culturally capable when working with First Australians](#)
- [Effective in culturally diverse and international environments](#)

This table demonstrates where each of the Griffith Graduate Attributes is taught, practised and assessed in this course.

University wide attributes

GRADUATE ATTRIBUTE	TAUGHT	PRACTISED	ASSESSED
Knowledgeable and skilled, with critical judgement	•	•	•
Effective communicators and collaborators	•	•	•
Innovative, creative and entrepreneurial	•	•	•
Socially responsible and engaged in their communities			
Culturally capable when working with First Australians			
Effective in culturally diverse and international environments			