



Faculty of Medicine  
School of Medical Sciences

# PHAR 3251

## Clinical & Experimental Pharmacology

COURSE OUTLINE

TERM 1, 2019

CRICOS Provider Code 00098G

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Please read this outline in conjunction with the following pages on the [School of Medical Sciences website](#):

- [Advice for Students](#)
- [Learning Resources](#)

(or see "STUDENTS" tab at [medicallsciences.med.unsw.edu.au](http://medicallsciences.med.unsw.edu.au) )

# PHAR3251 Course Information

Clinical & Experimental Pharmacology (PHAR3251) is a 3<sup>rd</sup> year Science Course worth Six Units of Credit (6 UOC). The course is required as part of a major study plan in Pharmacology for the Bachelor of Science or Bachelor of Medical Sciences. The course will build on the information you have gained in Pharmacology (PHAR2011) and Physiology (2101 & 2201) as well as Biochemistry (BIOC2101/2181) and Molecular Biology (2201/2291) or Chemistry (2021/2041).

## OBJECTIVES OF THE COURSE

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Building on basic pharmacology skills learned in PHAR 2011, the objectives of this course are to a) provide both knowledge and conceptual understanding of the use and action of various classes of drugs in the treatment of different human diseases b) introduce and develop an understanding of the use of selected formulae to predict drug concentration in, and clearance from, the human body c) develop an appreciation of the need for further research to identify new drug targets for more effective therapies.

## COURSE CO-ORDINATOR and LECTURERS

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**Course Coordinator:** Dr Trudie Binder ph: 9385 8737

Consultation times: By appointment via email

**Co – Coordinator:** Prof Margaret Morris ph: 9385 1560

Consultation times: By appointment via email

### Lecturers in this course:

Dr Trudie Binder

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Prof Margaret Morris

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Dr David Jacques

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## COURSE STRUCTURE and TEACHING STRATEGIES

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This is a 6 unit course and consists of:

- 2 lectures per week
- practical/tutorial sessions of up to 4 hours per week
- Online actives

Students are expected to attend all scheduled activities for their full duration. Students are reminded that UNSW recommends that a 6 units-of-credit course should involve about 150-180 hrs of study and learning activities. The formal learning activities are approximately 60 hours throughout the term and students are expected (and strongly recommended) to do at least 90 hours of additional study including online activities.

Lectures will provide you with the concepts and theory essential for understanding the mechanism of action and clinical effects of drug classes. For each disease the pathological process will be outlined in the lecture and the relevant drug targets in the disease process identified and current pharmacological treatments will be described. While lectures will focus on the mechanism of action and adverse effects of drugs currently in use, potential new therapies, drug targets and areas requiring further research for more effective therapies, will be identified and discussed. To assist in the development of research and analytical skills practical classes and tutorials will

be held. These classes and tutorials allow students to engage in a more interactive form of learning than is possible in the lectures. The skills you will learn in practical classes are relevant to your development as professional scientists. The *practicals and tutorials* are provided to support lecture material and practise analytical skills and to help you to develop graduate attributes A, C, D & E. You will be required to submit a written report for one of the practical sessions.

## **APPROACH TO LEARNING AND TEACHING**

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The learning and teaching philosophy underpinning this course is centred on student learning and aims to create an environment, which interests, challenges, and enthuses students. The teaching is designed to be relevant and engaging in order to prepare students for future careers in Pharmacology.

Although the primary source of information for this course is the lecture material, effective learning can be enhanced through self-directed use of other resources such as textbooks and Web based sources. Your practical classes will be directly related to the lectures and it is essential to prepare for practical classes before attendance. It is up to you to ensure you perform well in each part of the course; preparing for classes; completing assignments; studying for exams and seeking assistance to clarify your understanding.

## **STUDENT LEARNING OUTCOMES**

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PHAR3251 will develop those attributes that the Faculty of Science and the Department of Pharmacology has identified as important for a Pharmacology Science Graduate to attain. These include; skills, qualities, understanding and attitudes that promote lifelong learning that students should acquire during their university experience.

### Graduate Attributes

- A. Research, inquiry and analytical thinking abilities
- B. The capability and motivation for intellectual development
- C. Ethical, social and professional understanding
- D. Effective communication
- E. Teamwork, collaborative and management skills
- F. Information Literacy – the skills to locate evaluate and use relevant information.

### Pharmacology Learning Outcomes

- Demonstrate an understanding of how drugs/therapeutics are developed, work and are used safely
- Critically analyse, interpret and effectively communicate pharmacology data and literature
- Design and/or execute experiments or other activities to address pharmacological scenarios

On completion of this subject students should:

1. demonstrate an understanding of the clinical application of a range of drug classes.
2. be able to describe the mechanism of action of specified drug classes used to treat the major types of disease.
3. be able to accurately perform experiments, record data, draw conclusions from experimental data and write up a scientific report.
4. be able to demonstrate their ability to work in teams and communicate scientific information effectively to a variety of audiences and in a variety of formats.

## ASSESSMENT PROCEDURES

	Date due	% final mark
Progress exam (50 min duration)	25 <sup>th</sup> March	15%
Practical report (1500 words )	5 <sup>th</sup> of April	15%
Student poster presentation	29 <sup>th</sup> of April	15%
End of session examination (2 hours duration)	TBA	55%
Formative assessment (online MCQs)		0

Written assessment tasks must be submitted electronically *via* Moodle, through Turnitin. **A penalty will apply for late submissions (10% per day).**

### Practical Report

The practical report will be written individually using class data generated and analysed (in the data analysis practical class) from the “effects of  $\beta$ -adrenoceptor antagonists on exercise induced cardiovascular changes” practical class. You must bring a copy of your analysed data and results to the ‘practical report writing class’ where you will be given further instruction and an opportunity to peer review and prepare your report for submission.

This assessment task will address graduate attributes A, B, C, D, E & F.

A PDF version of the laboratory report must be submitted **via Moodle through Turnitin, before 10 am, Friday the 5<sup>th</sup> of April**. There will be a “10% mark deduction per day penalty” for late submission unless the course co-ordinator has approved special consideration. Information for the practical report (structure, marking criteria etc.) will be posted on Moodle.

### Student poster presentation

Students will work in teams of four to research their topic for presentation as a scientific poster. The poster will be displayed during a poster presentation and viewing session on the **29<sup>th</sup> of April**. You will be expected to answer questions relating to the topic both individually and as a group. All members of the group will be required to participate in the presentation.

The poster presentation will be graded on scientific content, visual communication and verbal presentation by two academic/research reviewers or staff. Poster titles (topics) will be made available during week 2 of session 1. This assessment task will allow you to develop your research, information literacy, communication and time management skills, as well as allowing you to demonstrate your ability to work in a team and collaborate successfully (Graduate attributes A, D, E & F). Information for the poster presentation (topic titles, marking criteria etc.) will be posted on Moodle. An information session on ‘scientific communication: posters’ will occur on week 1.

### Progress examination

The progress exam will be held during the session in week 6 on the **25<sup>th</sup> of March**. This exam will give you feedback on how you are succeeding in the course. The progress examination and end of session examination will test not only your knowledge of drugs used to treat major classes of disease but also your ability to apply the knowledge you have acquired from multiple lectures to identifying areas of research on appropriate drug targets. This examination will be in the form of 20 multiple choice questions and 1 short answer question. The questions will be based on the material covered in the lectures, practical classes and tutorials. Material covered prior to the progress exam may be again examined in the final exam. The exam will address graduate attributes A and B.

### Final Exam

The final examination will be held during the official examination period and will consist of 20 multiple choice questions and 10 short answer questions.

### Formative assessment

The formative assessment is in the form of *online multiple-choice questions* (MCQs) which has been created to help you revise before the progress examination and become familiar with the MCQ format. You will receive assessment results and feedback immediately once the task is completed and questions will cover material during the first 4 weeks of the course. The *online MCQ's* will address graduate attributes A, B and F and give you feedback on how you are progressing in the course.

## **TEXTBOOK AND READING LIST**

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### ***Recommended Primary Texts***

Rang, Henderson, Ritter and Flower; Pharmacology 8<sup>th</sup> ed. Churchill Livingstone, 2015

Brunton and Hilal-Dandan; Goodman & Gilman's Manual of Pharmacology and Therapeutics 2<sup>nd</sup> ed. McGraw-Hill, 2013

## **COURSE EVALUATION AND DEVELOPMENT**

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Each year feedback is sought from students about the course and continual improvements are made based on this feedback. You will be invited to provide confidential feedback using myExperience through the Moodle page. Student representatives will also be invited to participate in 1-2 meetings with academic staff to discuss both positive and negative experiences to enable us to continue improving all aspects of the course.

## **GENERAL INFORMATION**

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The Department of Pharmacology is part of the School of Medical Sciences and is within the Faculty of Medicine. It is in the Wallace Wurth building, C27. General inquiries can be made online via the UNSW Student Portal Web Forms: <http://unsw.to/webforms>.

**Prof Margaret Morris** is Head of Department and appointments to meet with her may be made via email ([m.morris@unsw.edu.au](mailto:m.morris@unsw.edu.au)).

**Honours Program.** Dr Cristan Herbert ([C.Herbert@unsw.edu.au](mailto:C.Herbert@unsw.edu.au) ph:9385 8679) coordinates the Honours program. Any students considering an Honours year should discuss the requirements with the coordinator.

Honours Administrator: Vicky Sawatt ([v.sawatt@unsw.edu.au](mailto:v.sawatt@unsw.edu.au) ph:9385 8195).

### ***Postgraduate degrees***

The Department of Pharmacology offers students the opportunity to enter the following graduate programs:

**Course Work Masters:** Masters of Pharmacological Medicine. For more information contact Dr Orin Chisholm ([o.chisholm@unsw.edu.au](mailto:o.chisholm@unsw.edu.au)).

**Research Masters:** In Pharmacology. For more information contact the post-graduate convenor Assoc. Prof Pascal Carrive ([p.carrive@unsw.edu.au](mailto:p.carrive@unsw.edu.au)) & Dr Nicole Jones ([n.jones@unsw.edu.au](mailto:n.jones@unsw.edu.au)).

**Doctorate (Ph.D):** In Pharmacology. For more information contact the post-graduate convenor Assoc. Prof Pascal Carrive ([p.carrive@unsw.edu.au](mailto:p.carrive@unsw.edu.au)) & Dr Nicole Jones ([n.jones@unsw.edu.au](mailto:n.jones@unsw.edu.au)).

### **Enrolment and administrative help**

If you have any problems with enrolment or scheduling please contact the SoMS Student Admin team online via the UNSW Student Portal Web Forms: <http://unsw.to/webforms>. Please indicate PHAR3251 as the subject heading.

## **OFFICIAL COMMUNICATION**

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All communicate will be via your official UNSW email please see [Advice for Student-Official Communication](#) for more details.

## **ATTENDANCE REQUIREMENTS**

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For details on the Policy on Class Attendance and Absence see [Advice for Students](#) and the [Policy on Class Attendance and Absence](#).

Attendance at practical classes is compulsory, and must be recorded in the class roll at the start of each class. Arrival more than 15 minutes after the start of the class will be recorded as non-attendance. It is your responsibility to ensure that your attendance is recorded. Satisfactory completion of the work set for each class is essential. Non-attendance for other than documented medical reasons (or other serious issues) for more than 1 practical class during the session may result in an additional practical assessment exam or ineligibility to pass the course. Students who miss practical classes due to illness or for other reasons must submit a copy of medical certificates or other documentation to the course coordinator.

## **PRACTICAL CLASSES**

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The practical class is an opportunity for students to develop graduate attribute C by behaving in an ethical, socially responsible and professional manner within the practical class.

Students must take due care with biological and hazardous material and make sure all equipment is left clean and functional. In the interests of safety, special attention should be paid to any precautionary measures recommended in the notes. If any accidents or incidents occur they should be reported immediately to the demonstrator in charge of the class who will record the incident and recommend what further action is required.

For more details see [Advice for Students-Practical Classes](#)

## **ACADEMIC INTEGRITY AND PLAGIARISM**

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The School of Medical Sciences will not tolerate plagiarism in submitted written work. The University regards this as academic misconduct and imposes severe penalties. Evidence of plagiarism in submitted assignments, etc. will be thoroughly investigated and may be penalized by the award of a score of zero for the assessable work. Flagrant plagiarism will be directly referred to the Division of the Registrar for disciplinary action under UNSW rules.

The [UNSW Student Code](#) outlines the standard of conduct expected of students with respect to their academic integrity and plagiarism.

More details of what constitutes plagiarism can be found [here](#)

## **MISSED EXAMS AND SPECIAL CONSIDERATION**

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Please see [UNSW-Special Consideration](#) and [Student Advice-Special Consideration](#)

If you unavoidably miss an exam in PHAR3251, you must lodge an application with UNSW Student Central for special consideration.

**PLEASE NOTE** that if you miss any examinations for medical reasons you must lodge a medical certificate with UNSW Student Central within **3 DAYS**. Your request for consideration will be assessed and a supplementary exam may be granted.

**Supplementary exams for T1, will be held from Monday, 27<sup>th</sup> May to the 31<sup>st</sup> of May, 2019**

## **MISSED PROGRESS EXAM**

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If you unavoidably miss the progress exam in PHAR3251, you must inform the course coordinator within **3 DAYS**. You must supply adequate documentation (medical certificate) to be considered for any supplementary progress exam. If your request for consideration is granted an alternative assessment will be organised which may take the form of a supplementary exam or increased weighting of the final exam.

## **STUDENT SUPPORT SERVICES**

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Details of the available student support services can be found at [Student Advice-Student support services](#).

## **APPEAL PROCEDURES**

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Details can be found at [Student-Advice-Reviews and Appeals](#)