Unit Outline 2014
Faculty of Health

Essential Pharmacology
9002
This Unit Outline must be read in conjunction with:

a) **UC Student Guide to Policies**, which sets out University-wide policies and procedures, including information on matters such as plagiarism, grade descriptors, moderation, feedback and deferred exams, and is available at [scroll to bottom of page](http://www.canberra.edu.au/student-services)

b) **UC Guide to Student Services**, and is available at [scroll to bottom of page](http://www.canberra.edu.au/student-services)

c) Any additional information specified in section 6h.

### 1: General Information

1a Unit title: Essential Pharmacology

1b Unit number: 9002

1c Teaching Period and year offered: Semester 2 2014

1d Credit point value: 3

1e Unit level: 2

1f Unit Convener: Alison Shield  
                    Room: 12D50  
                    Email: Alison.Shield@canberra.edu.au  
                    Telephone: +61 (0)2 6201 2084  
                    Fax: +61 (0)2 6201 5727

1g Administration Assistant: Tanya McGill  
                            Room: 12D34  
                            Email: Tanya.McGill@canberra.edu.au  
                            Telephone: +61 (0)2 6201 2796  
                            Fax: +61 (0)2 6201 5727

### 2: Academic Content

2a Unit description and learning outcomes  
This unit introduces fundamental aspects of pharmacodynamics and pharmacokinetics. Principles of receptor theory will be used to describe drug-receptor interactions. This unit will also explore how the chemical properties of drugs are relevant to their mechanism of action, drug disposition and potential side effects. This Unit is co-taught with 9586 Essential Pharmacology G.

On completion of this unit, students will be able to:

1. demonstrate a sound knowledge of receptor theory;

2. explain drug mechanism of action with respect to physicochemical properties;

3. demonstrate a basic understanding (including calculations) about the importance of pharmacokinetics on drug action
2b  **Generic skills**

On completion of this unit students will have developed the following generic skills and attributes:

1. Communication
2. Analysis and inquiry
3. Problem solving
4. Working independently and with others
5. Professionalism and Social Responsibility

Further information on University of Canberra Generic Skills can be found at the following link: [http://www.canberra.edu.au/learning-teaching/uc-graduate-attributes](http://www.canberra.edu.au/learning-teaching/uc-graduate-attributes)

2c  **Prerequisites and/or co-requisites**

_Prequisite:_ 6530 Biochemistry  
/Corequisite:_ 9000 Biopharmaceutics and Advanced Formulations

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### 3: Delivery of Unit and Timetable

#### 3a Delivery mode

This Unit will be delivered on-campus with weekly lectures, tutorials and practicals according to the schedule described in Section 3b. It consists of up to 5 contact hours per week. This unit is taught in combination with 9586 Essential Pharmacology G.

#### 3b Timetable of activities

<table>
<thead>
<tr>
<th>Week</th>
<th>Dates</th>
<th>Lecture: Wed 9:30-10:30am</th>
<th>Lecture: Thurs 9:30-10:30am</th>
<th>Tutorial: Wed or Thurs 12:30-2:00pm</th>
<th>Practical: Thurs 2:00-5:00pm Fri 9:30am-12:30pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11-15 Aug</td>
<td>Introduction to Pharmacology</td>
<td>PD: Drug Targets</td>
<td>Drug target</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>18-22 Aug</td>
<td>Neuropharmacology basics</td>
<td>Adrenergic and Cholinergic 1</td>
<td>Synaptic Transmission</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25-29 Aug</td>
<td>PD: Receptor theory</td>
<td>PD: Enzyme kinetics</td>
<td>Enzyme Kinetics</td>
<td>Enzyme kinetics</td>
</tr>
<tr>
<td>4</td>
<td>1-5 Sept</td>
<td>PK: ADME overview</td>
<td>PK: Absorption</td>
<td>Ionisation calculations</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>8-12 Sept</td>
<td>PK: Distribution (recorded)</td>
<td>Mid semester exam (none)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>15-19 Sept</td>
<td>PK: Metabolism 1</td>
<td>PK: Metabolism 2</td>
<td>PK Calculations 1</td>
<td>Enzyme inhibition</td>
</tr>
<tr>
<td>7</td>
<td>22-26 Sept</td>
<td>PK: Elimination 1</td>
<td>PK: Elimination 2</td>
<td>PK Calculations 2</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>29 Sept-3 Oct</td>
<td>CLASS FREE PERIOD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6-10 Oct</td>
<td>Cholinergic 2</td>
<td>Adrenergic 2</td>
<td>Case studies</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>13-17</td>
<td>Adrenergic and Pharmaco-</td>
<td>PGx</td>
<td>PGx</td>
<td></td>
</tr>
</tbody>
</table>
Oct 11 20-24 Oct Cholinergic 3 genetics (PGx) Drug Interactions Drug interactions

Oct 12 27-31 Oct Drug Interactions 2 Regulatory Pharmacology TGA workshop (Thursday afternoon)

Nov 13 3-7 Nov Life cycle Life cycle Life cycle Review

Nov 14, 15 10-21 Nov Exam Period

4: Unit Resources

4a Lists of required texts/readings

For Unit readings and resources in the University of Canberra Library
Link to search page for Unit Readings (print materials)
Link to search page for eReserve (electronic materials)

Required text:

Strongly recommended texts:


Recommended texts:
Pharmacology


Pharmacokinetics

These texts are available for purchase through the Coop bookshop and for temporary loan in the University of Canberra Library.

4b  **Materials and equipment**

A calculator may be required for some tutorial sessions.

4c  **Unit website**

To find your unit site online, login to LearnOnline(Moodle) using your student ID. Note that your unit site has a profiles page that displays your name and email address for the benefit of other students. If you prefer to hide your email address, click here for instructions.

This Unit requires that you can access the Unit website (i.e. via Moodle) at http://learnonline.canberra.edu.au/

Please also utilise the Pharmacy Subject Guide from University of Canberra Library at http://canberra.libguides.com/pharmacy and other specific websites as presented throughout the Unit.

5:  **Assessment**

5a  **Assessment overview**

<table>
<thead>
<tr>
<th>Assessment item</th>
<th>Due date of assignments</th>
<th>Weighting</th>
<th>Addresses learning outcome(s)</th>
<th>Addresses generic skill(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid semester exam</td>
<td>Sept 11</td>
<td>25%</td>
<td>1,2,3</td>
<td>1,2</td>
</tr>
<tr>
<td>PK comparison report</td>
<td>Oct 20</td>
<td>30%</td>
<td>1,2,3</td>
<td>1,2,3,4</td>
</tr>
<tr>
<td>Final exam</td>
<td>Exam period</td>
<td>45%</td>
<td>1,2,3</td>
<td>1,2</td>
</tr>
</tbody>
</table>

**UC Generic Skills**

1 - Communication  
2 - Analysis and Inquiry  
3 - Problem Solving  
4 - Working independently and with others  
5 - Professionalism and Social Responsibility

5b  **Details of each assessment item**

**Mid Semester Exam**

Value: 25%

Due Date: Thursday September 11th, 9:30-11:00 in 27C12

Time limit: Ninety (90) minutes

This test will contain multiple choice and short answer questions on all of the lecture and tutorial material presented in weeks 1-4. Scientific, non-programmable calculators are permitted.

**Pharmacology Report**

Value: 30%

Due Date: Monday October 20th, 10pm

Page limit: 1200 words
Students will choose three drugs within a class of drugs to research and will need to describe:
- what condition(s) the class of drugs is used to treat
- the intended drug target (i.e. receptor molecules)
- a biochemical basis for the mechanism of action of these drugs
- a comparison of pharmacokinetic parameters (ADME) for the drug(s) including a brief description about how chemistry influences the pharmacokinetic properties for these drugs
- any major adverse drug reactions (including significant drug interactions) for these drugs and a mechanistic rationale for why these side effects occur (i.e. the biochemical basis)

**marking criteria for written reports**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>80%</td>
<td>The report addresses all aspects of the topic as described above and/or justifies the limited scope of the information obtained.</td>
</tr>
<tr>
<td>Pharmacodynamics &amp; therapeutic use</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Pharmacokinetics</td>
<td>30%</td>
<td></td>
</tr>
<tr>
<td>Adverse drug reactions</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Use of Quality Literature</td>
<td>10%</td>
<td>Information obtained is clearly supported by appropriate literature; primary references used where possible. References are cited appropriately.</td>
</tr>
<tr>
<td>Writing Style &amp; Format</td>
<td>10%</td>
<td>Paper is clear and easy to follow with a logical flow of information, an effective paragraph structure and appropriate use of tables and figures. Professional language is used and any spelling, punctuation and grammatical errors are minimal. The report conforms to the report requirements (see ‘General’ guidelines in 6h below)</td>
</tr>
</tbody>
</table>

**Final Exam**

Value: 45%
Due Date: Exam period
Time limit: Two (2) hours

A 2 hour exam containing multiple choice, short and long answer questions on all of the course material with a focus on weeks 5-13. Scientific, non-programmable calculators are permitted. In order to pass this unit students are required to obtain at least 50% for the final exam. You must pass this exam to pass the unit.

**5c Submission of assessment items**

All assessment items will be submitted online via the unit Moodle site. The first page of each assessment submission should include the following information:

Student Name:
Student ID:
Assessment Name:
Word Count (if applicable):

Any assessment item submitted **WITHOUT** the specified information on the first page will be returned to the student and not marked until this requirement is met. Late penalties will be applied (see 5d below).

**5d Special assessment requirements**

You are required to pass the following pieces of assessment to pass this Unit.
• Final exam

Should you fail to pass any of these nominated assessment items, you will fail the Unit.


**Late submission of assignments.**

Late submission of assignments without an approved extension will result in the assignment not being marked and zero being recorded for that particular assignment. In extenuating circumstances a late submission may be considered upon the production of supporting documentation and at the discretion of the unit convener.

**Extensions.**

*Extensions must be applied for before the due date.*

Students can apply for an extension to the due date for submission of an assessment item on the grounds of illness or other unavoidable and verifiable personal circumstances. Documentary evidence will be expected in order that an extension be granted.

It should be noted that such documentation will be considered but will not guarantee that the application will be successful. The Unit Convenor will decide whether to grant an extension and the length of the extension.

Students should note that this policy does not apply to deferred exams which are centrally administered by the examinations office.

5e Supplementary assessment

Refer to the UC [Supplementary Assessment Policy](#)

5f Academic Integrity

Students have a responsibility to uphold University standards on ethical scholarship. Good scholarship involves building on the work of others and use of others' work must be acknowledged with proper attribution made. Cheating, plagiarism, and falsification of data are dishonest practices which contravene academic values. Please see UC's [Academic Integrity Policy](#).

To enhance understanding of academic integrity, it is expected that all students will complete the LearnOnline Academic Integrity Module (AIM) at least once during their course of study. The module is automatically available as a listed site when students log into LearnOnline.

Pharmacy students are required to complete the AIM Quiz using the link on the Pharmacy Students Moodle website to ensure results are collated for the Discipline. If students cannot access this website and AIM Quiz please inform the Unit Convener.

*Pharmacy students are expected to complete the AIM Quiz in the first two (2) weeks of their course and no submitted assessment pieces will be marked until the Quiz has been completed.*

5g Text-matching software

The University of Canberra has available, through LearnOnline (Moodle), text-matching software that helps students and staff reduce plagiarism and improve understandings of academic integrity. Known as URKUND, the software matches submitted text in student assignments against material from various sources: the internet, published books and journals, and previously submitted student texts. [Click here for further information on the URKUND text-matching software](#).
6: Student Responsibility

6a Workload
The amount of time you will need to spend on study in this unit will depend on a number of factors including your prior knowledge, learning skill level and learning style. Nevertheless, in planning your time commitments you should note that for a 3cp unit the total notional workload over the semester or term is assumed to be 150 hours. These hours include time spent in classes. The total workload for units of different credit point value should vary proportionally. For example, for a 6cp unit the total notional workload over a semester or term is assumed to be 300 hours.

6b Special needs
Students who need assistance in undertaking the unit because of disability or other circumstances should inform their Unit Convener or UC AccessAbility http://www.canberra.edu.au/accessability, (formerly the Disabilities Office) as soon as possible so the necessary arrangements can be made.

6c Participation requirements
This Unit contains participatory elements which are vital to the Australian Pharmacy Council professional learning outcomes for this Unit. Except in the case of extenuating circumstances, 100% attendance is expected at all lectures, and 100% participation is required in all placements, externships, tutorials, practicals and presentations. It is expected that students unable to fulfil these participation requirements will inform the Unit Convener as soon as practical, by telephone or email. If attendance requirements cannot be regularly satisfied (e.g. timetable clash) it may be recommended that you schedule this unit for a future semester. Absence from external placement activities must also be reported to the relevant clinical placement coordinator and preceptor. Failure to adhere to these requirements may result in failure of the associated assessment piece. Consideration will be given for illness; however evidence such as a medical certificate will be required.

Contact details for the Unit Convenor are given in Section 1.

6d Withdrawal
If you are planning to withdraw please discuss with your unit convener. Please see Withdrawal of Units for further information on deadlines.

6e Required IT skills
Students should be conversant with searching for and accessing information via electronic means; the use of Moodle; and word processing, spreadsheet and presentation software.

6f In Unit costs
The following costs are expected for this unit:
- Self-printing of electronically provided material
- Scientific non-programmable calculator

(Note: To calculate your unit fees see: How do I calculate my fees? The online UC Co-op Textbook Search is available for purchasing text books.)

6g Work placements, internships, or practicums
This Unit does not contain any Work Integrated Learning (WIL) activities (clinical placements and externships).
6h Additional information

Privacy and Confidentiality
As part of its partnership arrangements with Health Agencies, the Faculty of Health at the University of Canberra is aware of the issue of confidentiality of information gained from clinical placements and externships. Students are expected to analyse their experiences from these as part of their academic study. In order to support learning while protecting confidentiality of information, the following guidelines have been developed:
1. Pseudonyms should be used for the names of patients and organisations in all academic work.
2. Identifying information, including demographic information, should be modified in academic work, using terminology such as ‘similar to’.
3. Students should mark all academic work with sensitive information as ‘in-confidence’ in the footer.
4. Students should develop ‘composite’ patients/clients based upon their experiences with several patients or clients in one clinical experience if possible. Students should note that this is a ‘composite’ and not intended to identify a single person.
5. Students should use the password-protect function on their word processing programs to further guard sensitive information.
6. Students should avoid naming other students in academic work, such as reflective pieces or portfolios.
7. Students should attend workshops for health science students on how to change information about patients in line with these recommendations.

For further information students may visit http://www.privacy.gov.au/act/#health

Pharmacy Style Guide for report formatting
Unless otherwise approved (in writing), all written assessment pieces (formative and summative) must conform to the following requirements:
- Headings in bold, maximum font size 16 pt.
- Font size: 12 pt – Times New Roman, Arial or Calibri.
- Margins no less than 1.5cm on all sides.
- Page number at bottom right hand corner of footer.
- Student identification number (number only) at top right hand corner of header.
- References given in Harvard style (author, date) or NLM/Vancouver style (chronological numeric). Information on these referencing styles can be found on the library website at http://www.canberra.edu.au/library/research-gateway/research_help/referencing-guides

Please also refer to Section 6f of the Unit outline for more information about appropriate referencing.
- Privacy statements if required.
- Assignment requirements (first page) as per Section 5c above.
- Any word limits specified in assignments (in this Unit Outline or in task descriptions on Moodle) will INCLUDE all tables, figures and appendices, but EXCLUDE references and the Faculty of Health cover sheet.
- Submissions which exceed the specified word (or page) length will be truncated at the word (or page) limit and only assessed to this point.

Health Learning Resource Centre
The Health Learning Resource Centre (HLRC) is located in 12C26. It is a facility designed to enhance the learning and university experience for health students with particular emphasis on students in their first year. A drop-in service of students helping students is also available. Visit the HLRC coordinator for more details.
Mandatory Notifications to the Pharmacy Board of Australia

Pursuant to the Health Practitioner Regulation National Law Act 2009, pharmacy practitioners (registered pharmacists) and education providers have an obligation to report ‘notifiable conduct’, to the Pharmacy Board of Australia in order to prevent the public being placed at risk of harm.

Education providers are also required, under s.143 of the National Law, to make mandatory notifications in relation to students, if the provider reasonably believes:

a) a student enrolled with the provider has an impairment that, in the course of the student undertaking clinical training, may place the public at substantial risk of harm; or

b) a student for whom the provider has arranged clinical training has an impairment that, in the course of the student undertaking the clinical training, may place the public at substantial risk of harm.

Practitioners are required to make a mandatory notification in relation to a student if the practitioner reasonably believes that a student has an impairment that, in the course of the student undertaking clinical training, may place the public at substantial risk of harm.

All concerns raised within the Discipline of Pharmacy or by clinical preceptors will be reviewed by the Head of Discipline and the Course Convener before any reporting action is taken.

These professional obligations are taken seriously by staff and the University. Students should be aware of their obligations under student registration.


7: Student Feedback

All students enrolled in this unit will have an opportunity to provide anonymous feedback on the unit at the end of the Semester via the Unit Satisfaction Survey (USS) which you can access by logging into MyUC via the UC homepage: http://www.canberra.edu.au/home/. Your lecturer or tutor may also invite you to provide more detailed feedback on their teaching through an anonymous questionnaire.

This is a new unit for 2014 and therefore prior feedback is not available.

8: Authority of this Unit Outline

Any change to the information contained in Section 2 (Academic content), and Section 5 (Assessment) of this document, will only be made by the Unit Convener if the written agreement of Head of Discipline and a majority of students has been obtained; and if written advice of the change is then provided on the unit site in the learning management system. If this is not possible, written advice of the change must be then forwarded to each student enrolled in the unit at their registered term address. Any individual student who believes him/herself to be disadvantaged by a change is encouraged to discuss the matter with the Unit Convener.