

PHRM30008 Drugs: From Discovery to Market

| Credit Points: | 12.5 | | | | | | | | | | | | |
|---|---|----------------|----------------------------|----------------|---|------------------|-------|---------|----------------------------|----------------|--|------------|----|
| Level: | 3 (Undergraduate) | | | | | | | | | | | | |
| Dates & Locations: | 2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus. | | | | | | | | | | | | |
| Time Commitment: | Contact Hours: 3 x one hour lectures per week (total contact hours: 36) Total Time Commitment: 170 hours | | | | | | | | | | | | |
| Prerequisites: | <p>BSc students:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>PHRM20001 Pharmacology: How Drugs Work</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>BBiomed students:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>BIOM20002 Human Structure and Function</td> <td>Semester 2</td> <td>25</td> </tr> </tbody> </table> <p>Students wishing to undertake this subject as breadth will need the approval of the subject co-ordinator.</p> | Subject | Study Period Commencement: | Credit Points: | PHRM20001 Pharmacology: How Drugs Work | Semester 2 | 12.50 | Subject | Study Period Commencement: | Credit Points: | BIOM20002 Human Structure and Function | Semester 2 | 25 |
| Subject | Study Period Commencement: | Credit Points: | | | | | | | | | | | |
| PHRM20001 Pharmacology: How Drugs Work | Semester 2 | 12.50 | | | | | | | | | | | |
| Subject | Study Period Commencement: | Credit Points: | | | | | | | | | | | |
| BIOM20002 Human Structure and Function | Semester 2 | 25 | | | | | | | | | | | |
| Corequisites: | None | | | | | | | | | | | | |
| Recommended Background Knowledge: | Not Applicable | | | | | | | | | | | | |
| Non Allowed Subjects: | <p>This subject cannot be taken if credit has been previously obtained for:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>534-301 Cellular and Molecular Pharmacology</td> <td>Not offered 2010</td> <td></td> </tr> </tbody> </table> | Subject | Study Period Commencement: | Credit Points: | 534-301 Cellular and Molecular Pharmacology | Not offered 2010 | | | | | | | |
| Subject | Study Period Commencement: | Credit Points: | | | | | | | | | | | |
| 534-301 Cellular and Molecular Pharmacology | Not offered 2010 | | | | | | | | | | | | |
| Core Participation Requirements: | <p><p>For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry.</p> <p>It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http://services.unimelb.edu.au/disability</p></p> | | | | | | | | | | | | |
| Coordinator: | Assoc Prof James Ziogas, Prof Gary Anderson | | | | | | | | | | | | |
| Contact: | <p>Subject Coordinators Prof Gary Anderson gpa@unimelb.edu.au (mailto:gpa@unimelb.edu.au) Assoc Prof James Ziogas jamesz@unimelb.edu.au (mailto:jamesz@unimelb.edu.au) Administrative Coordinator</p> | | | | | | | | | | | | |

| | |
|---|--|
| | BiomedSci-AcademicServices@unimelb.edu.au (mailto:BiomedSci-AcademicServices@unimelb.edu.au) |
| Subject Overview: | This subject will provide an overview of modern drug discovery and development, with an emphasis on the pharmacology that underpins the endeavour. The social, economic and scientific challenges facing contemporary drug discovery and development with respect to choice of suitable drug targets will be discussed; current drug targets, including receptors and enzymes, will be highlighted. Strategies – contrasting the complementary chemical-to-target and target-to-chemical approaches – to identify and optimise lead compounds will be presented. The material will include a discussion of small molecules as well as “biologicals”, such as antibodies and nucleotides. A description of how these lead compounds become drug candidates and are characterised with regards to their pharmacodynamic (receptor binding and activation), pharmacokinetic (ability to reach their site of action) and toxicological/safety pharmacology properties will be provided. Finally the approaches to bring an identified drug candidate to the market will be examined. This part of the subject will consider the necessary human clinical trials, regulatory requirements and ongoing monitoring of approved drugs. The subject material will be presented via a combination of lectures, associated online learning materials, and “hot topic” tutorials. The latter will focus on recent innovations in drug discovery, and will serve to highlight the close relationship between basic science and actual therapeutic agents. |
| Learning Outcomes: | On successful completion of this subject, the students will have developed a clear understanding of the strategies and processes that underpin modern drug discovery and development. They will have detailed knowledge of the pharmacological principles that support drug discovery and development, and therefore of the vital role that pharmacologists play in this endeavour. They will be well placed to appreciate future developments and challenges in the field of drug discovery and development as they occur. |
| Assessment: | Continuing assessment 15% Mid-semester assessment 15% A 2 hour examination in the examination period 70% |
| Prescribed Texts: | None |
| Recommended Texts: | <i>Pharmacology</i> , Rang <i>et al.</i> , Churchill Livingstone, 6th edition, 2007. OR <i>Principles of Pharmacology</i> , Golan <i>et al.</i> , Lippincott, Wilkins & Williams, 2nd edition, 2007. |
| Breadth Options: | This subject potentially can be taken as a breadth subject component for the following courses: # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2015/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2015/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2015/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2015/B-MUS) You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects. |
| Fees Information: | Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees |
| Generic Skills: | By the end of this subject, students will: • be adept at learning in a variety of ways • be able to examine critically, synthesise and evaluate knowledge from multiple sources • have gained experience in independent learning |
| Notes: | This subject is available to students enrolled in the pre 2008 BSc, New Generation BSc, Biomedicine degree. |
| Related Majors/Minors/Specialisations: | Biomedical Biotechnology (specialisation of Biotechnology major) Biotechnology (pre-2008 Bachelor of Science) |

Medicinal Chemistry
Medicinal Chemistry
Medicinal Chemistry
Medicinal Chemistry
Medicinal Chemistry (specialisation of Chemistry major)
Microbiology
Pharmacology
Science-credited subjects - new generation B-SCI and B-ENG.
Selective subjects for B-BMED