



The University of Southern Queensland

Course specification

The current and official versions of the course specifications are available on the web at <http://www.usq.edu.au/coursespecification/current>.
Please consult the web for updates that may occur during the year.

Description: Pharmacology and Pathophysiology for Nurses

| Subject | Cat-nbr | Class | Term | Mode | Units | Campus |
|---------|---------|-------|---------|------|-------|-----------|
| NSC | 2500 | 75260 | 1, 2008 | ONC | 1.00 | Toowoomba |

| | |
|-----------------------------------|---------------------------|
| Academic group: | FOSCI |
| Academic org: | FOS002 |
| Student contribution band: | National Priority Nursing |
| ASCED code: | 060301 |

STAFFING

Examiner: Guang Liu
Moderator: Andrew Hoey

REQUISITES

Pre-requisite: BIO1203

RATIONALE

The purpose of this course is to provide students with an understanding of the pathophysiology of the most common diseases affecting patients in developed countries. This course will then build on an understanding of normal physiology and pathophysiology to address treatment approaches to such diseases with a particular focus on pharmacology and nutrition. Information learnt from this course will be intergrated into learning from nursing practice courses.

SYNOPSIS

This course focuses on understanding the basis for disease states that are most prevalent in the developed world and how they can be treated. Major topics to be covered include mental health, cardiovascular disease, osteoarthritis, peptic ulcer disease, diabetes mellitus, asthma and cancer. Perioperative drugs will also be considered.

OBJECTIVES

On successful completion of this course students will be able to:

1. describe the effects of the major neurotransmitters in the central and peripheral nervous system (Assessment items 1, 2);
2. demonstrate an understanding of how changes in the level of, or responsiveness to neurotransmitters or hormones can contribute to disease states (Assessment items 1, 2);
3. explain the theories underlying a biological basis to depression, anxiety, psychoses, Alzheimers and Parkinsons disease and how drugs can be used to improve mental health (Assessment items 1, 2);

4. name the major groups of drugs of addiction/abuse and demonstrate an understanding of how they affect the body and addiction can be treated (Assessment items 1, 2);
5. demonstrate an understanding of which drugs are used perioperatively including local and general anaesthetics, analgesics and antiemetics (Assessment items 3, 4);
6. explain the pathophysiology of common cardiovascular conditions including hypertension, myocardial infarction/stroke and heart failure and name and describe the importance of nutrition, fluid regulation, exercise and the major drugs used to treat these conditions (Assessment items 3, 4);
7. explain the pathophysiology of osteoarthritis and inflammatory disorders and how these are treated pharmacologically (Assessment items 3, 4);
8. explain the pathophysiology of peptic ulcer disease and the major drugs used to treat this condition (Assessment items 3, 4);
9. demonstrate an understanding of the causes of diabetes mellitus and how the importance of nutrition, exercise and drugs in treating this condition (Assessment items 3, 4);
10. explain the pathophysiology underlying the development of asthma and how it can be treated pharmacologically (Assessment items 3, 4);
11. demonstrate an understanding of the cellular basis of cancer, metastases and the groups of drugs used to treat some forms of cancer (Assessment items 3, 4);
12. demonstrate skills and knowledge required to perform laboratory experiments safely with appropriate equipment (laboratory classes, Assessment items 1, 2, 3, 4).

TOPICS

| | Description | Weighting (%) |
|-----|---|---------------|
| 1. | The role of neurotransmitters in health and disease | 5.00 |
| 2. | Pathophysiology and pharmacological treatment of conditions affecting mental health | 25.00 |
| 3. | Perioperative Drugs | 10.00 |
| 4. | Cardiovascular disease and treatment by drugs, exercise, nutrition and fluid regulation | 15.00 |
| 5. | Osteoarthritis and Inflammation | 5.00 |
| 6. | Pain Relief | 10.00 |
| 7. | Peptic Ulcer Disease | 5.00 |
| 8. | Diabetes Mellitus and treatment by drugs, exercise and nutrition | 10.00 |
| 9. | Chronic Obstructive Pulmonary Disease (Asthma) | 5.00 |
| 10. | Cancer | 10.00 |

TEXT and MATERIALS required to be PURCHASED or ACCESSED

ALL textbooks and materials are available for purchase from USQ BOOKSHOP (unless otherwise stated). Orders may be placed via secure internet, free fax 1800642453, phone 07 46312742 (within Australia), or mail. Overseas students should fax +61 7 46311743, or phone +61 7 46312742. For costs, further details, and internet ordering, use the 'Textbook Search' facility at <http://bookshop.usq.edu.au> click 'Semester', then enter your 'Course Code' (no spaces).

2006, *Australian medicines handbook*, Australian Medicines Handbook Pty Ltd, Adelaide.

(This handbook is available online free through the Library using USQ connect username and password.)

Galbraith, A, Bullock, S & Manias, E 2004, *Fundamentals of pharmacology*, 4th edn, Pearson Education, Australia.

Jenkins, G, Kemnitz, C & Tortora, G 2007, *Anatomy and physiology: from science to life*, John Wiley & Sons, New York.

(Pack includes textbook, DVD & WileyPlus Access card for online access.)

USQ Publication 2007, 'Instructional guide for science concepts for nurses' (Available: USQ S tudyDesk).

REFERENCE MATERIALS

Reference materials are materials that, if accessed by students, may improve their knowledge and understanding of the material in the course and enrich their learning experience.

Bryant, B, Knights, K & Salerno, E 2003, *Pharmacology for health professionals*, Mosby, Sydney.

Marieb, EN 2004, *Human anatomy and physiology*, 6th edn, Benjamin/Cummings, Menlo Park, California.

(Students can either purchase the Human Anatomy and Physiology text or purchase the text book and Interactive Physiology CD-ROM. The latter two are shrink wrapped.)

McCance, K & Huether, S 2006, *Pathophysiology: the biological basis of disease in adults and children*, 5th edn, Elsevier Mosby, St Louis.

Rang, HP et al 2003, *Pharmacology*, 5th edn, Churchill Livingstone, Edinburgh.

STUDENT WORKLOAD REQUIREMENTS

| ACTIVITY | HOURS |
|---------------------------------|--------|
| Examinations | 2.00 |
| Laboratory or Practical Classes | 12.00 |
| Lectures | 26.00 |
| Private Study | 118.00 |
| Test | 1.00 |
| Tutorials | 6.00 |

ASSESSMENT DETAILS

| Description | Marks out of | Wtg (%) | Due date |
|--------------------------------|--------------|---------|-----------------------------|
| PART A 1HR CLOSED CMA TEST | 30.00 | 15.00 | 03 Mar 2008 (see note 1) |
| PART B 1HR CLOSED TEST S/A | 20.00 | 8.00 | 03 Mar 2008 |
| LABORATORY QUIZES | 100.00 | 30.00 | 03 Mar 2008 (see note 2) |
| PART A 2HR RESTRICTED CMA EXAM | 60.00 | 30.00 | END S1 (see note 3) |
| PARTB 2HR RES EXAM S/A | 40.00 | 17.00 | END S1 |

NOTES

1. Examiner to advise date and details of the mid semester test (Part A & B).
2. Examiner to advise details of Quiz assessments
3. Examination dates will be available during the Semester. Please refer to the examination timetable when published (Part A & B).

IMPORTANT ASSESSMENT INFORMATION

- 1 Attendance requirements:
It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, laboratory classes and tutorials) scheduled for them, and to study all material provided to them or required to be accessed by them to maximise their chance of meeting the objectives of the course and to be informed of course-related activities and administration. To maximize their chances of satisfying the objectives of the practical component of the course, students should attend and actively participate in the tutorial sessions in the course.
- 2 Requirements for students to complete each assessment item satisfactorily:
To complete the tests and examinations satisfactorily, students must obtain at least 50% of the marks available for that assessment. (Depending upon the requirements in Statement 4 below, students may not have to satisfactorily complete each assessment item to receive a passing grade in this course.)
- 3 Penalties for late submission of required work:
Not applicable for this course as there are no assignments.
- 4 Requirements for student to be awarded a passing grade in the course:
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 5 Method used to combine assessment results to attain final grade:
To be assured of receiving a passing grade a student must achieve at least 50% of the total weighted marks available for the course.
- 6 Examination information:
In a Restricted Examination, candidates are allowed to bring writing and drawing instruments into the examination. Students whose first language is not English, may, take an appropriate unmarked non-electronic translation dictionary (but not technical dictionary) into the examination. Dictionaries with any handwritten notes will not be permitted.
- 7 Examination period when Deferred/Supplementary examinations will be held:

Any Deferred or Supplementary examinations for this course will be held in the second week of the semester following this course offering and the examiner will advise students via USQ Connect of the date, time and location of any such examination.

8 University Regulations:

Students should read USQ Regulations 5.1 Definitions, 5.6. Assessment, and 5.10 Academic Misconduct for further information and to avoid actions which might contravene University Regulations. These regulations can be found at the URL <http://www.usq.edu.au/corporateservices/calendar/part5.htm> or in the current USQ Handbook

ASSESSMENT NOTES

- 9 Students who, for medical, family/personal, or employment-related reasons, are unable to complete an assignment or to sit for an examination at the scheduled time may apply to defer an assessment in a course. Such a request must be accompanied by appropriate supporting documentation. One of the following temporary grades may be awarded IDS (Incomplete - Deferred Examination; IDM (Incomplete Deferred Make-up); IDB (Incomplete - Both Deferred Examination and Deferred Make-up).
- 10 In order to attend laboratory classes, students must provide and wear appropriate personal protective equipment. This shall include a laboratory coat, closed in shoes, and safety glasses. Such equipment must be approved by supervising staff. Failure to provide and wear the appropriate safety equipment will result in students being excluded from classes