



The University of Southern Queensland

## Course specification

### Description: Physiology and Pharmacology Foundations

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
NSC	2180	44374	2, 2005	ONC	1.00	Wide Bay

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS002
<b>Student contribution band:</b>	National Priority Nursing
<b>ASCED code:</b>	060301

### STAFFING

Examiner: Helen Ison  
Moderator: Michael Watson

### OTHER-REQUISITES

Recommended prior study: NSC1931

### RATIONALE

A knowledge of the effects of chemicals released within the body as hormones and neurotransmitters is essential to understand how the body's organ systems are regulated. Understanding the effects of drugs on the body and their therapeutic uses in disease is essential for clinical nursing practice.

### SYNOPSIS

In this course students extend their knowledge of anatomy and physiology, particularly with regard to the nervous and endocrine control of body function. The effects and uses of drugs affecting the nervous and endocrine systems and their receptors are introduced while the concept of toxicity of drugs and other chemicals is also discussed.

### OBJECTIVES

On completion of this course students will be able to:

1. describe the structure and function of the nervous and endocrine systems;
2. name the effects of drugs acting on the central and peripheral nervous systems and their receptors and describe their indications, mechanisms of action, and adverse effects where appropriate;
3. name the effects of drugs acting on the endocrine system and hormone receptors and describe their indications, mechanisms of action, and adverse effects where appropriate;
4. name the effects of drugs acting on the cardiovascular, haematological, respiratory, gastrointestinal and immune systems
5. describe the types of drug toxicity and the clinical manifestations of toxicity;

6. demonstrate skills and knowledge required to perform laboratory experiments safely with appropriate equipment.

## TOPICS

Description	Weighting (%)
1. Anatomy and physiology of the endocrine system - Origin and nature of hormones; Effects of major hormones on cells, tissues and organ; Pharmacology of drugs acting on the endocrine system including reproduction and development.	16.00
2. Neurotransmitters and Receptors - Major classes of neurotransmitters including: amines, (acetylcholine, noradrenaline, dopamine, 5-hydroxytryptamine, histamine), amino acids (gamma aminobutyric acid and excitatory amino acids), peptides (opioid peptides). Mediators of pain and inflammation; Pharmacology of drugs affecting the actions of the above neurotransmitters and their mediators.	20.00
3. Pharmacodynamics of drugs acting on the: - central nervous system; somatic nervous system; autonomic nervous system; cardiovascular, renal, respiratory and gastrointestinal system.	56.00
4. Drug Toxicology and Addiction Drug interactions and contraindications, therapeutic index. Manifestations of adverse drug effects; Principles of drug addiction; Biological, Industrial and Domestic Toxicity.	8.00

## 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).

2003, *Instructional Guide for Physiology and Pharmacology*, USQ Publication, Toowoomba.

2003, *Australian Medicines Handbook*, Australian Medicines Handbook Pty Ltd, Adelaide.

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

Interactive Physiology CD-ROM

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

Marieb, E N 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.)

## 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.

Brody, T M et al 1998, *Human Pharmacology: Molecular to Clinical*, 3rd edn, Mosby, St Louis.

Rand, H P et al 1999, *Pharmacology*, 4th edn, Churchill Livingstone, Edinburgh.

Tiziani, A 2002, *Havard's Nursing Guide to Drugs*, 6th edn, Harcourt Brace & Company, Sydney.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	3.00
Laboratory or Practical Classes	18.00
Lectures	33.00
Private Study	110.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
PT A OF 1HR CLOSED TEST M/C	33.00	22.00	19 Jul 2005 (see note 1)
PTB OF 1HR CLSD TEST SHORT ANS	12.00	8.00	19 Jul 2005 (see note 2)
WEEKLY QUIZZES	50.00	10.00	19 Jul 2005 (see note 3)
PART A OF 2HR CLOSED EXAM M/C	66.00	44.00	END S2 (see note 4)
PART B OF 2HR CLOSED SHORT ANS	24.00	16.00	END S2

### NOTES

1. Examiner to advise the date of Part A of 1hr closed test - multiple choice.
2. Examiner to advise the date of Part B 1hr closed test - short answer.
3. Examiner will advise details for the weekly quizzes
4. Examination dates will be available during the Semester. Please refer to the examination timetable when published.

## IMPORTANT ASSESSMENT INFORMATION

### 1 Attendance requirements:

It is the students' responsibility to attend and participate appropriately in all activities (such as lectures, tutorials, laboratories and practical work) 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.

- 2 Requirements for students to complete each assessment item satisfactorily:  
To complete each of the assessment items satisfactorily, students must obtain at least 50% of the marks available for each assessment item. To complete the examination satisfactorily, students must obtain at least 50% of the marks available for the examination. To complete the practical component satisfactorily, students must undertake all nominated quizzes and obtain at least 50% of the marks available for each report submitted.
- 3 Penalties for late submission of required work:  
If students submit assignments after the due date without prior approval then a penalty of 10% of the total marks available for the assignment will apply for each working day late.
- 4 Requirements for student to be awarded a passing grade in the course:  
To be assured of receiving a passing grade a student must submit all of the summative assessment items, achieve at least 50% in the examination and at least 50% of the available weighted marks for the summative assessment items. Students who do not qualify for a Passing grade may, at the discretion of the Examiner, be awarded a Supplementary Examination and/or assigned additional work to demonstrate to the Examiner that they have achieved the required standard. It is expected that such students will have gained at least 45 % of the total marks available for all summative assessment items. (or be assessed by the examiner as close to a grade of C- on all summative assessment items.)
- 5 Method used to combine assessment results to attain final grade:  
The final grades for students will be assigned on the basis of the weighted aggregate of the marks obtained for each of the summative assessment items in the course.
- 6 Examination information:  
In a Closed Examination, candidates are allowed to bring only writing and drawing instruments into the examination.
- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held during the Semester 3 examination period.
- 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 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.
- 10 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).

- 11 The due date for an assignment is the date by which a student must despatch the assignment to the USQ. The onus is on the student to provide proof of the despatch date, if requested by the Examiner. Students must retain a copy of each item submitted for assessment. If requested by the Examiner, students will be required to provide a copy of assignments submitted for assessment purposes. Such copies should be despatched to USQ within 24 hours of receipt of a request being made. In accordance with University's Assignment Extension Policy (Regulation 5.6.1), the examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.