



The University of Southern Queensland

## Course specification

<b>Description: Physiology 2</b>						
Subject	Cat-nbr	Class	Term	Mode	Units	Campus
BIO	3303	44292	2, 2005	ONC	1.00	Toowoomba

<b>Academic group:</b>	FOSCI
<b>Academic org:</b>	FOS002
<b>Student contribution band:</b>	2
<b>ASCED code:</b>	010999

### STAFFING

Examiner: Andrew Hoey  
Moderator: Michael Watson

### REQUISITES

Pre-requisite: BIO2203

### RATIONALE

The aim of this course is to enhance students' understanding of the physiology of the human body. This requires knowledge of the functions of each major body system, the interactions between systems and control of body systems.

### SYNOPSIS

This course builds on the foundations obtained in the course BIO2203 (Physiology 1). The course extends the students' knowledge of the functioning of several major body systems, examines integration between body systems and the control of physiological processes, with an emphasis on human physiology. Areas of focus include sensory, neural, endocrine, cardiac and respiratory physiology, acid-base balance, exercise physiology, reproduction and embryology in humans.

### OBJECTIVES

On completion of this course students will be able to:

1. describe sensory transduction, neural pathways and neural processes involved in taste, smell, hearing, sight and balance;
2. discuss processing of sensory information and its role in perception;
3. discuss the function of the receptors associated with spinal reflexes;
4. discuss the neural control of voluntary movement;
5. demonstrate an understanding of the control and effects of hormone release and thus organ system functioning;
6. discuss functional integration of the nervous and endocrine systems during stress;

7. discuss how the cardiac, vascular and respiratory systems function to control blood gas levels and blood supply to different organs, including functional integration of other organ systems to control blood pressure and blood flow;
8. describe the major changes in cardiovascular and respiratory function that occur with short term and long term exercise;
9. discuss renal and respiratory regulation of acid-base balance;
10. demonstrate a knowledge of the reproductive systems including gamete formation, fertilisation, implantation and gestation;
11. discuss embryonic development and parturition, including the cardiorespiratory changes that occur at birth;
12. demonstrate skills and knowledge required to perform laboratory experiments safely with appropriate equipment.

## TOPICS

	Description	Weighting (%)
1.	Sensory Physiology - sensory receptors and sensory pathways; processing of sensory information.	8.00
2.	Neural and Endocrine Control - spinal reflexes; neural control of movement; influences on, and effects of hormone release; the stress response.	40.00
3.	Cardiac and Respiratory Control - effect of blood gas changes on function of the cardiovascular and respiratory systems; cardiovascular and respiratory reflexes; control of blood circulation through different organs; control of blood pressure by alterations in functions of the cardiovascular, renal, nervous and endocrine systems; exercise: cardiovascular and respiratory responses and physiological indices of performance.	28.00
4.	Acid-Base Balance - buffer systems; respiratory regulation; renal regulation.	8.00
5.	Reproduction - endocrine control of the ovarian and uterine cycles; gamete formation including ovulation and spermatogenesis; fertilisation, implantation, embryonic development, gestation and parturition, including the cardiorespiratory changes that occur at birth.	16.00

## 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).

Rhoades, R & Pflanzer, R 2003, *Human Physiology*, 4th edn, Thomson Learning, Sydney. (ISBN 0-03-032129-8)

## 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.

Berne, RM & Levy, MN 2000, *Principles of Physiology*, 3rd edn, Mosby, St Louis.

Bray, JJ et al 1999, *Lecture Notes on Human Physiology*, 4th edn, Blackwell Science, Malden.

Guyton, AC & Hall, JE 2000, *Textbook of Medical Physiology*, 10th edn, Saunders, Philadelphia.

Kandel, ER, Schwartz, JH & Jessell, TM 2000, *Principles of Neural Science*, 4th edn, Appleton & Lange, Norwalk.

Pickles, JD 1988, *An Introduction to the Physiology of Hearing*, 2nd edn, Academic Press, London.

Rothwell, J 1994, *Control of Human Voluntary Movement*, 2nd edn, Chapman and Hall, London.

Vander, AJ, Sherman, JH & Luciano, DS 2001, *Human Physiology*, 8th edn, McGraw-Hill, Boston.

## STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	3.00
Laboratory or Practical Classes	30.00
Lectures	26.00
Private Study	105.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
REPORT	50.00	15.00	19 Jul 2005 (see note 1)
2000 WORD ESSAY	50.00	15.00	19 Jul 2005 (see note 2)
3 HR RESTRICTED EXAM	125.00	70.00	END S2 (see note 3)

### NOTES

1. Lecturer will advise due date of Report
2. Lecturer will advise due date for essay
3. 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. To maximize their chances of satisfying the objectives of the practical component of the course, students should attend and actively participate in the laboratory sessions in the course.

- 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.
- 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 a passing grade, students must demonstrate, via the summative assessment items, that they have achieved the required minimum standards in relation to the objectives of the course by: (i) satisfactorily completing the examination and assignments; and (ii) obtaining at least 50% of the total weighted marks available for all 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.
- 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 Restricted Examination, candidates are allowed access to specific materials during the examination. The only materials that candidates may use in the restricted examination for this course are: writing materials (non-electronic and free from material which could give the student an unfair advantage in the examination); calculators which cannot hold textual information (students must indicate on their examination paper the make and model of any calculator(s) they use during the examination; English translation dictionaries (but not technical dictionaries); Translation dictionary. With the Examiner's approval, candidates may, take an appropriate non- electronic translation dictionary into the examination. This will be subject to perusal and, if it is found to contain annotations or markings that could give the candidate an unfair advantage, it may be removed from the candidate's possession until the appropriate disciplinary action is completed. 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 examination period in Semester 3 of the current academic year.
- 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. The examiner of a course may grant an extension of the due date of an assignment in extenuating circumstances.