



The University of Southern Queensland

Course specification

Description: Advanced Neuroendocrine Physiology 1

Subject	Cat-nbr	Class	Term	Mode	Units	Campus
BIO	4101	55349	2, 2006	ONC	1.00	Toowoomba

Academic group:	FOSCI
Academic org:	FOS002
Student contribution band:	2
ASCED code:	010913

STAFFING

Examiner: Michael Watson

Moderator: Guang Liu

RATIONALE

The aim of this course is to provide an in depth understanding of the nervous and endocrine systems as the major control systems of the human body.

SYNOPSIS

This course examines the two major control systems of the human body. The initial components will examine neural control mechanisms including sensory perception, central neural regulation of sensory and motor function and the neural basis for synaptic plasticity memory and learning. Subsequently, endocrine mediators of sleep, metabolism and stress will be investigated. The physiology of gestation and parturition will be discussed along with the developmental changes associated with the foetal cardiovascular and respiratory systems. Finally the pathophysiology of various neural and endocrine disorders will be considered. Note: Students who have completed BIO3323 Neuroendocrine Physiology will be ineligible to enrol in BIO4101 Advanced Neuroendocrine Physiology1. Candidates for the MBMS program who have successfully completed BIO3323 Neuroendocrine Physiology should discuss their enrolment options with the program coordinator.

OBJECTIVES

On completion of this course students will be able to:

1. discuss the physiology of sensory perception including visual, auditory, vestibular systems
2. describe the central neural processing which occurs in the visual and somatosensory systems
3. appreciate the cellular mechanisms for learning and plasticity in the central nervous system
4. describe the neural processing that occurs in the motor system in order to learn a motor skill and in producing co-ordinated movement

5. describe the role of the autonomic nervous system, hypothalamus and pituitary in the regulation of the endocrine system
6. explain the integrated role of the major peripheral endocrine glands in the regulation of sleep, stress and metabolism
7. describe the role and regulation of the reproductive systems, including changes during gestation and parturition
8. describe the developmental changes in the embryo with regard to the nervous, cardiovascular and respiratory systems
9. demonstrate effective skills for searching databases and electronic resources
10. demonstrate skills and knowledge required to use relevant computer software and hardware for data acquisition and analysis

TOPICS

	Description	Weighting (%)
1.	Sensory perception	18.00
2.	Motor systems	20.00
3.	Central integrative systems	18.00
4.	The hypothalamus and pituitary glands	12.00
5.	Peripheral endocrine glands	20.00
6.	Reproductive physiology	12.00

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: 0030321298).

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 (eds.) 2000, *Principles of Physiology*, 3rd edn, Mosby, St Louis.

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

Hardman, JG & Limbird, LE (eds.) 2001, *Goodman & Gilman's: The Pharmacological Basis of Therapeutics*, 10th edn, McGraw Hill, New York.

Hille B 2001, *Ion Channels of Excitable Membranes*, 3rd edn, Sinauer, Massachusetts.

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

STUDENT WORKLOAD REQUIREMENTS

ACTIVITY	HOURS
Examinations	3.00
Lectures	26.00
Private Study	122.00
Tutorials	13.00

ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
5000 WRD ESSAY/LITERATURE SURV	50.00	20.00	25 Jul 2006 (see note 1)
3 HR CLOSED EXAM	125.00	80.00	END S2 (see note 2)

NOTES

1. Lecturer will advise due date for essay/literature survey.
2. 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 maximise 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. # These are examples only and the specific detail should be agreed with the Associate Dean (Academic)
- 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 of the examiner then a penalty of 5% of the total marks gained by the student 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) obtaining at least 50% of the total marks available for the course; and (ii) obtaining at least 50% of the total marks assigned to the Project Reports.
- 5 Method used to combine assessment results to attain final grade:
The final grades for students will be assigned on the basis of the aggregate of the weighted marks obtained for each of the summative assessment items in the course.

- 6 Examination information:
Candidates are allowed to bring only writing and drawing instruments into the Closed examination.
- 7 Examination period when Deferred/Supplementary examinations will be held:
No supplementary examinations will be offered in the laboratory component of the course. Any Deferred or Supplementary examinations for this course will be held during the Semester 3 examination period following this offering of the course.
- 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

- 1 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).
- 2 10. 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.