



The University of Southern Queensland

## Course specification

<b>Description: Animal Diversity</b>						
Subject	Cat-nbr	Class	Term	Mode	Units	Campus
BIO	2210	41044	1, 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>	010915

### STAFFING

Examiner: Kerry Withers  
Moderator: Martine Maron

### REQUISITES

Pre-requisite: BIO1101

### RATIONALE

A knowledge of the evolution of animals and their adaptations to their environments and practical skills in identifying them is valuable to many professionals, especially biologists, environmental scientists, conservation officers, environmental engineers and teachers.

### SYNOPSIS

This course examines the diversity of organisms within the animal kingdom, with an emphasis on Australian examples. Evolutionary relationships and adaptations are examined in the context of key evolutionary shifts for example water to land to air. Parasitism, reproduction, locomotion, migration and mechanisms which enable animals to cope with environmental stresses are discussed. The course provides practical experience in the identification of major groups of animals (invertebrates, reptiles, amphibians, birds, mammals) and ecophysiological experimentation.

### OBJECTIVES

On completion of this course students will be able to:

1. describe the evolution and biogeography of Australian fauna
2. demonstrate skills in classifying a variety of vertebrates and invertebrates;
3. describe the classification, morphology and function of vertebrates and invertebrates, with an emphasis on Australian fauna;
4. understand the development of animal form and function in an evolutionary context;
5. describe adaptations of Australian fauna for coping with fluctuating environments;
6. demonstrate through active participation in laboratory practical sessions, competence in the use of observation and interpretation in the study of animals.

## TOPICS

	Description	Weighting (%)
1.	An Introduction to Animal Diversity and Evolution: Examines animal form and function, animal architecture and classification and phylogeny from an evolutionary perspective and the biogeography of Australian fauna.	15.00
2.	Sponges and Radially Symmetrical Animals: Examines the evolution and characteristics sponges, jellyfish, corals and sea anemones	4.00
3.	Bilaterally Symmetrical Animals: Examines the evolution and characteristics of flatworms, ribbon worms and roundworms.	4.00
4.	Coelomates: Examines the evolution and characteristics of molluscs, segmented worms, arthropods such as insects and crustaceans and echinoderms such as sea urchins and sea stars.	23.00
5.	The Chordates: Examines the three Chordate Subphyla: Urochordata (e.g. sea squirts), Cephalochordata (e.g. lancelets) and Vertebrata (animals with backbones).	4.00
6.	The Vertebrates: Examines the evolution and the structure and functioning of fishes, amphibians, reptiles, birds and mammals.	23.00
7.	Animal Form and Function: The relationships between structure and function in selected animals are examined in the context of key evolutionary shifts and mechanisms to cope with environmental stresses, with an emphasis on Australian fauna.	27.00

## 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).

Laboratory coat, Safety glasses and Dissection kit.

Hickman, CP, Roberts, LS and Larson, A 2003, *Animal Diversity*, 3rd edn, McGraw-Hill, Boston.

Withers, KW 2005, *BIO2210 Animal Diversity*, University of Southern Queensland, Toowoomba.

## 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.

Anderson, DT 1996, *An Atlas of Invertebrate Anatomy*, University of New South Wales Press, Sydney.

Anderson, DT (ed) 2001, *Invertebrate Zoology*, 2nd edn, Oxford University Press, Melbourne.

- Augee, M & Fox, M 2000, *Biology of Australia and New Zealand*, Pearson Education Australia, Sydney.
- Cogger, HG 1994, *Reptiles and Amphibians of Australia*, 5th edn, Reed, Port Melbourne.
- Covacevich, J & Easton, A 1974, *Rats and Mice of Queensland*, Queensland Museum, (Publ. No. 9)
- Hickman, CP, Roberts, LS, Larson, A & I'Anson, H 2004, *Integrated Principles of Zoology*, 12th edn, McGraw-Hill, Boston.
- Hildebrand, M 2001, *Analysis of Vertebrate Structure*, 5th edn, J Wiley & Sons, New York.
- Hume, ID 1999, *Marsupial Nutrition*, Cambridge University Press, Cambridge.
- Pough, FH, Janis, CM & Heiser, JB 2002, *Vertebrate Life*, 6th edn, Prentice Hall, New Jersey.
- Ruppert, EE & Barnes, RD 1994, *Invertebrate Zoology*, 6th edn, Saunders, London.
- Simpson, K, Day, N & Trusler, P 1996, *Field Guide to the Birds of Australia*, 5th edn, Viking, Ringwood, Vic.
- Slater, P, Slater, P & Slater, R 2001, *The Slater Field Guide to Australian Birds (revised edn)*, New Holland, Frenchs Forrest NSW.  
(revised edn)
- Strahan, R (ed) 1995, *Mammals of Australia*, Reed Books: The Australian Museum, Chatswood, NSW.
- Withers, PC 1992, *Comparative Animal Physiology*, Saunders College Publishing, Fort Worth, Texas.

## **STUDENT WORKLOAD REQUIREMENTS**

ACTIVITY	HOURS
Assignments	40.00
Examinations	3.50
Field Trips or Excursions	9.00
Laboratory or Practical Classes	21.00
Lectures	26.00
Private Study	64.00

## ASSESSMENT DETAILS

Description	Marks out of	Wtg(%)	Due date
PRACTICAL REPORT	100.00	15.00	01 Mar 2005
WRITTEN ASSIGNMENT	100.00	15.00	22 Apr 2005
1.5HR RESTRICT. PRAC TEST	100.00	20.00	30 May 2005
2HR CLOSED EXAM	120.00	50.00	END S1 (see note 1)

### NOTES

1. 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 laboratory sessions in the course and maintain a satisfactory record of practical work.
- 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 up to 20% 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 all summative assessment items; 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. 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.

- 7 Examination period when Deferred/Supplementary examinations will be held:  
Any Deferred or Supplementary examinations for this course will be held in the Semester 3 examination period following this course offering.
- 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 and practical exam, 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 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.
- 11 Candidates are allowed to bring only writing and drawing instruments into the closed test.