Description: Invertebrate Zoology

Subject Cat-Nbr Class Term Mode Units Campus
BIO 2206 24359 2, 2003 ONC 1.00 TWMBA

Academic Group: FOSCI
Academic Org: FOS002
HECS Band: 2
ASCED Code: 010915

STAFFING
Examiner: Kerry Withers
Moderator: Frank Roubal

PRE-REQUISITES
Pre-requisite: BIO2103

SYNOPSIS
Invertebrates are animals without backbones (ie without vertebrae). All the major invertebrate groups except the insects are studied here. For each phylum an overview of classification, morphology, anatomy and function and life-style is given. At least one member of each phylum is described in detail to convey an understanding of the whole organism. Practical work, involving dissection, microscopic study and demonstration of specimens, gives a direct insight to the wide diversity of species. This course will be offered in odd years.

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

- demonstrate a knowledge of the classification, morphology, anatomy, function and life-style of invertebrate animals (excluding insects);
- identify and classify a wide variety of invertebrate specimens, have the capacity to study these via dissection and microscopic examination and be able to relate body form to adaptive function and lifestyle.

TOPICS

<table>
<thead>
<tr>
<th>Description</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>1. The lectures cover all important metazoan phyla except the Chordata. Representatives of small phyla which are not covered in lectures are</td>
<td>3.00</td>
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presented in practicals. For each phylum a general review is made of classification, morphology, anatomy, function and life-style. The form and function of at least one member of each phylum is described comprehensively to convey an understanding of the whole organism. Numerous examples are given to illustrate the enormous diversity in body form, function and lifestyle found in invertebrate animals. A number of areas of special interest are emphasised. The latter are given below, together with topic headings.

1. Parazoa sponge cell types; ascon, sycon and leucon grades of organisation

2. Cnidaria and Ctenophora the tissue grade of organisation; nematocysts; Obelia, Aurelia and Metridium studied in detail; alternation of generations; polymorphism; zoozanthellae

3. Playhelminthes the basic form and function of the flatworm; adaptative form and lifestyle of selected digenean and cestode parasites.

4. Nematoda the anatomy of Ascaris; diversity of nematode lifestyles with reference to the epidemiology and pathology of parasites of humans. Review of the transmission mechanisms and life history strategies of parasites.

5. Annelida coelom; metamerism; cephalization; adaptive diversity; Lumbricus studied in detail; adaptations to living on land with particular reference to excretion and reproductive mechanisms; epitoky; planktonic larvae

6. Mollusca anatomy and function of generalised mollusc; torsion in the gastropod; the structure and function of the bivalve gill; locomotion in bivalves and cephalopods; ciliary/mucous transport mechanisms v. those using muscle; shell evolution in cephalopods; buoyancy in Sepia.

7. Arthropoda arthropod success; exoskeleton, appendage diversity, review of trilobites, chelicerates, crustaceans and uniramians (excluding insects); including structure and function of the crayfish; larval stages in the prawn; parthenogenesis in branchiopods, metamorphosis in the goose barnacle; chilopods and diplopods; Arachnida, including spider anatomy, silk production and the uses of silk.

8. Echinodermata adaptive form and function of representatives of each class; internal anatomy, including vascular systems, of a starfish

TEXT and MATERIALS required to be PURCHASED or ACCESSED:

Books can be ordered by fax or telephone. For costs and further details use the 'Book Search' facility at http://bookshop.usq.edu.au by entering the author or title of the text.

McKilligan, N.G. 2003, BIO2206 Invertebrate Zoology, USQ,
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.


STUDENT WORKLOAD REQUIREMENTS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>HOURS</th>
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<tbody>
<tr>
<td>Examinations</td>
<td>7</td>
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<tr>
<td>Laboratory or Practical Classes</td>
<td>52</td>
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<tr>
<td>Lectures</td>
<td>26</td>
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<td>Private Study</td>
<td>85</td>
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ASSESSMENT DETAILS

<table>
<thead>
<tr>
<th>Description</th>
<th>Marks Out of</th>
<th>Wtg(%)</th>
<th>Required</th>
<th>Due Date</th>
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<tbody>
<tr>
<td>1.5 HR THEORY CLOSED TEST</td>
<td>22.00</td>
<td>22.00</td>
<td>Y</td>
<td>22 Jul 2003</td>
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<td>(see note )</td>
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<tr>
<td>1.5 HR PRACTICAL CLOSED TEST</td>
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<tr>
<td>PRACTICAL RECORD</td>
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<td>8.00</td>
<td>Y</td>
<td>22 Jul 2003</td>
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<tr>
<td>2 HR THEORY CLOSED EXAM</td>
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<td>Y</td>
<td>END S2</td>
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<tr>
<td>2 HR PRACTICAL CLOSED EXAM</td>
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<td>22.00</td>
<td>Y</td>
<td>END S2</td>
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NOTES:

- Examiner to advise date of Theory Closed Test.
- Examiner to advise date of Practical Closed Test.
- Examiner to advise details of practical record.
- Examination dates will be available during the Semester. Please refer to the examination timetable when published.
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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.

3  Penalties for late submission of required work:
   If students submit assignments after the due date without prior approval then a
   penalty of 5% 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.

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 normally 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/SECARIAT/calendar/Part5/ or in the printed version of 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 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 request 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.