COURSE OUTLINE

ENS213 Invertebrate Biology and Ecology

School: School of Science, Technology and Engineering

2026 | Trimester 1

UniSC Sunshine Coast
UniSC Moreton Bay

BLENDED LEARNING

Most of your course is on campus but you may be able to do some components of this course online.

Please go to unisc.edu.au for up to date information on the teaching sessions and campuses where this course is usually offered.

1. What is this course about?

1.1. Description

Invertebrates are critical in providing ecosystem goods and services vital to the biosphere. This course builds on your introductory knowledge of the diversity, form and function of aquatic and terrestrial invertebrates. You explore the evolution, anatomy, and adaptations of all the invertebrate phyla. You are introduced to their taxonomic diversity, distribution, adaptations to the environment, population management, conservation and pest status. Through local field projects in field ecology, you learn the methods and skills needed to study invertebrates.

1.2. How will this course be delivered?

ACTIVITY	HOURS	BEGINNING WEEK	FREQUENCY
BLENDED LEARNING			
Learning materials – Asynchronous Online Material	2hrs	Week 1	12 times
Laboratory 1 – On Campus	2hrs	Week 1	12 times
Fieldwork – Point Cartwright rocky shore half day on week 9 or 10	5hrs	Not applicable	Once Only

1.3. Course Topics

1) Evolution and phylogeny of the invertebrates;
2) Ecological roles of invertebrates;
3) The diversity of invertebrate groups;
4) Adaptations to the environment;
5) Anatomical, physiological and ecological characteristics;
6) Economic importance of invertebrates: pests and pollinators;
7) Parasites, and vectors of disease

2. What level is this course?

200 Level (Developing)

Building on and expanding the scope of introductory knowledge and skills, developing breadth or depth and applying knowledge and skills in a new context. May require pre-requisites where discipline specific introductory knowledge or skills is necessary. Normally, undertaken in the second or third full-time year of an undergraduate programs.

3. What is the unit value of this course?

12 units

4. How does this course contribute to my learning?

COURSE LEARNING OUTCOMES On successful completion of this course, you should be able to...		GRADUATE QUALITIES Completing these tasks successfully will contribute to you becoming...
1	Demonstrate and apply knowledge about i) diversity & main diagnostic characters of each phylum ii) adaptations to the environment iii) links between form and function iv) the life cycles of parasites and their health and ecological impacts v) ecological roles of invertebrates.	Knowledgeable
2	Argue with evidence how the rich diversity of invertebrates and their adaptations seen today are the product of multiple processes in evolution.	Knowledgeable
3	Assemble and present a thematic classified collection of invertebrate species that illustrates the diversity of the group and their adaptations to the environment.	Creative and critical thinker

5. Am I eligible to enrol in this course?

Refer to the UniSC Glossary of terms for definitions of “pre-requisites, co-requisites and anti-requisites”.

5.1. Pre-requisites

SCI102

5.2. Co-requisites

Not applicable

5.3. Anti-requisites

Not applicable

5.4. Specific assumed prior knowledge and skills (where applicable)

Not applicable

5.5. Microcredential Information

Not applicable

6. How am I going to be assessed?

6.1. Grading Scale

Standard Grading (GRD)

High Distinction (HD), Distinction (DN), Credit (CR), Pass (PS), Fail (FL).

6.2. Details of early feedback on progress

A formative practice practical exam will be given in week 4 during lab hours.

6.3. Assessment tasks

DELIVERY MODE	TASK NO.	ASSESSMENT PRODUCT	INDIVIDUAL OR GROUP	WEIGHTING %	WHAT IS THE DURATION / LENGTH?	WHEN SHOULD I SUBMIT?	WHERE SHOULD I SUBMIT IT?
All	1	Practical / Laboratory Skills	Individual	20%	2 hrs	Refer to Format	In Class
All	2	Report	Individual	35%	Minimum of 15 species	Refer to Format	Online Submission
All	3	Examination - Centrally Scheduled	Individual	45%	2hrs	Exam Period	Exam Venue

All - Assessment Task 1: Practical Exam

GOAL:	Demonstrate your understanding of the role of evolutionary processes resulting in invertebrate diversity and adaptations to environments.
PRODUCT:	Practical / Laboratory Skills
AUTHORSHIP STATEMENT:	
FORMAT:	Submit: A formative, practice practical exam during lab class in week 4 and a summative practical exam inweek 6. This assessment will comprise two components. The first, a short (30 minute) formative, practice practical exam in week 4, followed by a summative two (2) hour practical exam in week 6. Both are scheduled during laboratory class and consist of short-answer questions. The questions will be based mainly on the material covered in the first five weeks of laboratory classes, supplemented with material presented during the learning materials.
CRITERIA:	**No.** — **Learning Outcome assessed** 1 Demonstrate and apply knowledge about invertebrates; — 1 2 Argue with evidence how the rich diversity of invertebrates and their adaptations seen today are the product of multiple processes in evolution. — 2
GENERIC SKILLS:	Problem solving, Information literacy

All - Assessment Task 2: Invertebrate Field Guide

GOAL:	Demonstrate your ability to work scientifically by applying, under guidance, field methods and theoretical knowledge to illustrate the diversity of invertebrates and their adaptations to the environment.
PRODUCT:	Report
AUTHORSHIP STATEMENT:	
FORMAT:	You are required to assemble and present a field guide of local invertebrates;A minimum of 15 species is required;The collection should be organised around a taxonomic theme (e.g. different butterflies, insects, crustaceans, etc.), a habitat theme (e.g. diversity of rocky shore invertebrates), or an evolutionary/anatomical theme (e.g. evolution of organs for movement/feeding).Each specimen must be accompanied by a detailed taxonomic classification, exact geo-location (from GPS or Google Earth), a detailed description of the microhabitat it was collected from, and a list of the adaptations that the species has for living within that microhabitat;Students are required to take their own photographs/videos of all specimens. The presentation medium can be any of the following: document or book, website (use free editing and hosting services), Facebook page, Powerpoint file, or a YouTube video. NO venomous or endangered species, NO cephalopods (i.e. squid, octopuses, cuttlefish) are to be collected under any circumstances.
CRITERIA:	

No.		Learning Outcome assessed
1	Demonstrate and apply knowledge about invertebrates: Species identification & taxonomic classification	1
2	Assemble and present a thematic-classified collection of invertebrate species that illustrates the diversity of the group and their adaptations to the environment: a) Habitat descriptions b) Adaptations c) Presentation d)Thematic focus and coherence	3
3	Demonstrate creative thinking in identifying your theme, assembling the collection and presenting it.	1 2 3

GENERIC SKILLS:	Communication, Organisation, Information literacy

All - Assessment Task 3: Written Exam

GOAL:	Demonstrate assimilation and application of knowledge gathered throughout trimester in learning materials and practicals.
PRODUCT:	Examination - Centrally Scheduled
AUTHORSHIP STATEMENT:	
FORMAT:	A two (2) hour written exam, consisting of multiple choice and short-answer questions. The questions will be based mainly on the material covered in the theory component of the course (i.e. learning materials), supplemented with material presented during the laboratory and field activities
CRITERIA:	

No.		Learning Outcome assessed
1	Demonstrate knowledge about invertebrate classification, anatomy, phylogeny, ecology, reproduction, life cycles, adaptations and their roles in the creation and delivery of ecosystems goods and services	1
2	Argue with evidence how the rich diversity of invertebrates and their adaptations seen today are the product of multiple processes in evolution	2

GENERIC SKILLS:	Communication, Problem solving, Information literacy

7. Directed study hours

A 12-unit course will have total of 150 learning hours which will include directed study hours (including online if required), self-directed learning and completion of assessable tasks. Student workload is calculated at 12.5 learning hours per one unit.

8. What resources do I need to undertake this course?

Please note: Course information, including specific information of recommended readings, learning activities, resources, weekly readings, etc. are available on the course Canvas site– Please log in as soon as possible.

8.1. Prescribed text(s) or course reader

You need regular access to the resource(s) below. Many texts are available as ebooks through the Library at no additional cost.

REQUIRED?	AUTHOR	YEAR	TITLE	EDITION	PUBLISHER
Required	Jan Pechenik	2014	Biology of the Invertebrates	7	McGraw-Hill Education

8.2. Specific requirements

Nil

9. How are risks managed in this course?

Health and safety risks for this course have been assessed as low. It is your responsibility to review course material, search online, discuss with lecturers and peers and understand the health and safety risks associated with your specific course of study and to familiarise yourself with the University's general health and safety principles by reviewing the online induction training for students, and following the instructions of the University staff.

10. What administrative information is relevant to this course?

10.1. Assessment: Academic Integrity

Academic integrity is the ethical standard of university participation. It ensures that students graduate as a result of proving they are competent in their discipline. This is integral in maintaining the value of academic qualifications. Each industry has expectations and standards of the skills and knowledge within that discipline and these are reflected in assessment.

Academic integrity means that you do not engage in any activity that is considered to be academic fraud; including plagiarism, collusion or outsourcing any part of any assessment item to any other person. You are expected to be honest and ethical by completing all work yourself and indicating in your work which ideas and information were developed by you and which were taken from others. You cannot provide your assessment work to others. You are also expected to provide evidence of wide and critical reading, usually by using appropriate academic references.

In order to minimise incidents of academic fraud, this course may require that some of its assessment tasks, when submitted to Canvas, are electronically checked through Turnitin. This software allows for text comparisons to be made between your submitted assessment item and all other work to which Turnitin has access.

10.2. Assessment: Additional Requirements

Eligibility for Supplementary Assessment

Your eligibility for supplementary assessment in a course is dependent of the following conditions applying:
(a) The final mark is in the percentage range 47% to 49.4%; and
(b) The course is graded using the Standard Grading scale

Eligibility for Supplementary Assessment Your eligibility for supplementary assessment in a course is dependent of the following conditions applying: The final mark is in the percentage range 47% to 49.4% The course is graded using the Standard Grading scale You have not failed an assessment task in the course due to academic misconduct

10.3. Assessment: Submission penalties

Late submissions may be penalised up to and including the following maximum percentage of the assessment task's identified value, with weekdays and weekends included in the calculation of days late:
(a) One day: deduct 5%;
(b) Two days: deduct 10%;
(c) Three days: deduct 20%;
(d) Four days: deduct 40%;
(e) Five days: deduct 60%;
(f) Six days: deduct 80%;
(g) Seven days: A result of zero is awarded for the assessment task.

The following penalties will apply for a late submission for an online examination:
Less than 15 minutes: No penalty
From 15 minutes to 30 minutes: 20% penalty
More than 30 minutes: 100% penalty

10.4. Links to relevant University policy and procedures

For more information on Academic Learning & Teaching categories including:

- Assessment: Courses and Coursework Programs
- Review of Assessment and Final Grades
- Supplementary Assessment
- Central Examinations
- Deferred Examinations
- Student Conduct
- Students with a Disability

For more information, visit https://www.usc.edu.au/explore/policies-and-procedures#academic-learning-and-teaching

10.5. Student Charter

UniSC is committed to excellence in teaching, research and engagement in an environment that is inclusive, inspiring, safe and respectful. The Student Charter sets out what students can expect from the University, and what in turn is expected of students, to achieve these outcomes.

10.6. General Enquiries

For course-specific questions, contact your teaching staff or Course Coordinator.

For other enquiries or to access support, please contact Student Central:

- UniSC Student Central
- UniSC Adelaide Student Central