

BIOS2031

Biology of invertebrates

Session 2, 2018

Contributions from: Associate Professor Alistair Poore,
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Professor Emma Johnston

BIOS2031

BIOLOGY OF INVERTEBRATES

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Course information

NB: Some of this information is available on the [UNSW Virtual Handbook](#)¹

Year of Delivery	2018			
Course Code	BIOS2031			
Course Name	Biology of Invertebrates			
Academic Unit	School of Biological, Earth and Environmental Sciences			
Level of Course	2 nd year, undergraduate			
Units of Credit	6 UOC			
Session(s) Offered	Session 2			
Assumed Knowledge, Prerequisites or Co-requisites	BIOS1101			
Hours per Week	5			
Number of Weeks	12			
Commencement Date	Tuesday 31 st July, 2018			
Summary of Course Structure (for details see 'Course Schedule')				
Component	HPW	Time	Day	Location
Lecture 1	1	1 – 2 pm	Tuesday	CLB 4
Lecture 2	1	11 am – 12 pm	Friday	Mathews Theatre D
Laboratory	3	1 – 4 pm	Friday	Bioscience Teaching Lab 4
Field trip			Friday 5 th - Saturday 6 th October	Sydney Institute of Marine Sciences, Chowder Bay
TOTAL	5			

Staff Involved in the course

Staff	Role	Name	Contact Details
Course Convenor		Assoc. Prof. Alistair Poore	a.poore@unsw.edu.au
Course Manager		Aria Lee	aria.lee@unsw.edu.au Ph: 9385 4808
Additional Teaching Staff	Lecturers	Assoc. Prof. Russell Bonduriansky Dr Malte Ebach Assoc. Prof. Paul Gribben Assoc. Prof. Mike Kasumovic Assoc. Prof. Tracy Ainsworth Prof. Iain Suthers Hamish Craig	r.bonduriansky@unsw.edu.au m.ebach@unsw.edu.au p.gribben@unsw.edu.au m.kasumovic@unsw.edu.au tracy.ainsworth@unsw.edu.au i.suthers@unsw.edu.au h.c.craig@unsw.edu.au
	Tutors & Demonstrators	Brendan Lanham	
	Technical & Laboratory Staff	Suzy Evans	s.evans@unsw.edu.au Ph: 9385 2124

¹ UNSW Virtual Handbook: <http://www.handbook.unsw.edu.au/2015/index.html>

Course details

Course Description ² (Handbook Entry)	A study of invertebrate diversity emphasising their evolution, morphology, behaviour, and relationships to marine, freshwater and terrestrial environments. Invertebrate conservation and applied aspects of invertebrate biology are included. Practical work includes examining living and preserved specimens (including dissections) in the laboratory and the field, and techniques for invertebrate identification.	
Course Aims ³	This course involves a study of invertebrate animals presented as a series of lectures, practical sessions and a field survey. Each of these aims to provide an understanding of the diversity, morphology, and functional biology of the major invertebrate groups. Our expectation is that you will have gained an appreciation of the huge diversity of invertebrates and will have developed a framework enabling you to make sense of them.	
Student Learning Outcomes ⁴	By the end of the course, we expect you to: <ul style="list-style-type: none"> • be able to classify typical organisms into their major taxonomic groupings (usually phylum and class but down to order or lower categories in some groups such as insects and crustaceans). Conversely you should know the morphology and diagnostic characters of typical members of the major taxa. • be familiar with the habitat, structure, feeding, reproduction and development of the major invertebrate groups. • be able to argue for the need for detailed information on the biology of invertebrates for other biological sciences, and for application to environmental, agricultural and medicinal problems. 	
Graduate Attributes Developed in this Course ⁵		
Science Graduate Attributes ⁵	The level of FOCUS 0 = NO FOCUS 1 = MINIMAL 2 = MINOR 3 = MAJOR	Activities / Assessment
Research, inquiry and analytical thinking abilities	3	Practical reports, Field trip report, Invertebrates in the news web assignment (all assessed)
Capability and motivation for intellectual development	3	Self-guided practical classes, Field trip, Links in course materials to current research activities at UNSW
Ethical, social and professional understanding	2	Links in course material to impacts of invertebrates on broader society (agriculture, medicine, culture)
Communication	3	Written reports (for scientific and popular audiences)
Teamwork, collaborative and management skills	2	Group project, Group activities on field camp (all assessed)
Information literacy	2	Computer-based interactive keys to invertebrate identification

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² UNSW Virtual Handbook: <http://www.handbook.unsw.edu.au/undergraduate/courses/2018/BIOS2031.html>

³ Learning and Teaching Unit: <https://teaching.unsw.edu.au/about-teaching>

⁴ Learning and Teaching Unit – Learning Outcomes: <https://teaching.unsw.edu.au/starting-learning-outcomes>

⁵ Access the contextualised Science Graduate Attributes and your mapped courses: <http://www.science.unsw.edu.au/future-students/graduate-attributes> (Mapped courses are available at this site)

<p>Major Topics (Syllabus Outline)</p>	<p>Diversity, structure, feeding, reproduction and development in the major invertebrate groups. The use of this information for understanding invertebrate evolution, reproduction and communication. The application of invertebrate biology to applied problems (incl. conservation, pollution, invasive species)</p> <p>See course schedule for further details.</p>
<p>Relationship to Other Courses within the Program</p>	<p>Due to their very high diversity, abundance and importance to society, many other areas of the biological, environmental, agricultural and medical science rely heavily on fundamental knowledge of invertebrates. Other courses offered within the School of Biological, Earth and Environmental Sciences that will assume basic knowledge of invertebrate biology include:</p> <ul style="list-style-type: none"> • BIOS2011 Evolutionary and physiological ecology • MSCI2001 Introductory marine science • BIOS2021 Genetics • BIOS3011 Animal behaviour • BIOS3601 Advanced field biology • BIOS3081 Ocean to estuarine ecosystems • BIOS3091 Marine and aquatic ecology • BIOS3221 Assembling the tree of life • BIOS3171 Evolution <p>Many honours and postgraduate projects conducted within the school use invertebrates as the subjects of their research (see Further research in invertebrate biology at the back of this manual).</p>

Rationale and strategies underpinning the course

<p>Teaching Strategies</p>	<p>The lectures consist of two types:</p> <ol style="list-style-type: none"> 1) lectures that focus on a particular group of animals 2) lectures that focus on a particular theme, drawing upon knowledge of many invertebrate groups. <p>The first set of lectures aims to describe the classification and evolutionary relationships of invertebrates within the given group, their external and internal morphology, feeding behaviour, reproduction and development. The second set of lectures explores themes (e.g., reproduction, conservation) that are common to all invertebrates.</p> <p>The practical sessions provide an opportunity to observe and examine living and preserved specimens of invertebrates covered in the lectures. This is essential for the appreciation of the anatomy, size, and complexity of the organisms. In some laboratories, dissection is used to examine the internal anatomy of some of the larger organisms and to introduce you to methods of examining gross morphology. For the smaller organisms, microscopic examination is used to study both living and preserved animals and sectioned material is used to study their internal anatomy.</p> <p>The field trip examines invertebrates in their natural habitats. You will collect animals from several different habitat types and examine; 1) their diversity and 2) their structure, feeding and reproduction in relation to their habitat. The field survey offers a much wider range of living material than can be provided in laboratory sessions. The diagnostic features learned in the lectures and practicals will be put to use in identifying the animals which you collect.</p>
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Rationale for learning and teaching in this course^{6,7}	<p>The lecture and practical material is designed to give students an understanding of the biological diversity of invertebrates, but also strong reasons why it is important to science and society to have this understanding.</p> <p>As a consequence, the course material will frequently make the links between invertebrate biology and research in other sciences (including current research at UNSW), and between human activities and applications.</p> <p>The use of live animals where possible, visually rich lecture material and interactive activities, aim to encourage appreciation of, and enthusiasm for, invertebrate animals.</p>
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BIOS2031 Course schedule 2018

Lectures Tuesday 1-2, CLB 4
 Friday 11-12, Mathews D

Practicals Friday 1-4 pm, Teaching Lab 4

Week	Dates	Lectures	Practicals
2	31 st Jul	Introduction (AP)	
	29 th Jul	Sponges (AP)	
3	7 th Aug	Why the world needs invertebrate biologists (AL)	
	10 th Aug	Cnidarians (AP)	
	10 th Aug		Sponges & cnidarians (AP/AL)
4	14 th Aug	Worms 1 (AL)	
	17 th Aug	Worms 2 (AL)	
	17 th Aug		Worms (AL)
5	21 st Aug	Molluscs 1 (PG)	
	24 th Aug	Molluscs 2 (PG)	
	24 th Aug		Molluscs (PG)
6	28 th Aug	Insects 1 (RB)	
	31 st Aug	Insects 2 (RB)	
	31 st Aug		Insects (RB)
7	4 th Sep	Chelicerates 1 (HC)	
	7 th Sep	Chelicerates 2 (HC)	
	7 th Sep		Chelicerates & myriapods (HC)
8	11 th Sep	Weird sex in invertebrates (MK)	
	14 th Sep	Invertebrate palaeontology (ME)	
	14 th Sep		Interactive keys (AP)
9	18 th Sep	Crustaceans 1 (AP)	
	21 st Sep	Crustaceans 2 (AP)	
	21 st Sep		Crustaceans (AP)

	25 th –29 th Sep	Mid –session break	
10	2 nd Oct	Invertebrate symbiosis and immunology (TA)	
	5-6 th October		Field trip
11	9 th Oct	Invertebrate biotechnology (HC)	
	12 th Oct	Echinoderms (AP)	
	12 th Oct		Echinoderms (AP)
12	16 th Oct	Chordates 1 (IS)	
	19 th Oct	Chordates 2 (and all the other phyla!) (IS)	
	19 th Oct		Chordates & bryozoans (IS)
13	23 rd Oct	Invertebrate communication (RB)	
	26 th Oct	Invertebrate conservation (AP)	
	26 th Oct		Practical exam

AP: Assoc. Prof. Alistair Poore
AL: Aria Lee
HC: Hamish Craig
IS: Professor Iain Suthers
ME: Dr Malte Ebach
MK: Assoc.Prof. Mike Kasumovic
PG: Assoc.Prof. Paul Gribben
RB: Prof. Russell Bonduriansky
TA: Assoc. Prof. Tracy Ainsworth

Some of this information is available on the [Virtual Handbook](#)⁷ and the [UNSW Timetable](#)⁸.

⁷ UNSW Virtual Handbook: <http://www.handbook.unsw.edu.au/2015/index.html>

⁸ UNSW Timetable: <http://www.timetable.unsw.edu.au/>

Assessment tasks and feedback

Task	Knowledge & abilities assessed	Assessment Criteria	% of total mark	Date of		Feedback		
				Release	Submission	WHO	WHEN	HOW
Popular science article	Independent research on invertebrates. Ability to communicate scientific information for general public	Completion of tasks, extent of research, effective communication to a popular audience	15%	23 st Jul	13 th Aug	Aria Lee	Two weeks after submission	Marks and written comments
Field survey report	Knowledge of biological survey activities. Independent research. Ability to prepare scientific report	Completion of tasks, correct analysis and presentation of results, effective communication to a scientific audience	25%	2 nd Oct	22 rd Oct	Aria Lee	Two weeks after submission	Marks and written comments
Practical exam	Knowledge of invertebrate diversity, structure, feeding, reproduction and development	Correct and complete answers	25%	26 th Oct	26 th Oct	Aria Lee	One week after submission	Mark only
Final exam	Knowledge of invertebrate diversity, structure, feeding, reproduction and development. Ability to contrast functions and structures across invertebrate groups.	Comprehension of all material covered in lectures and practical classes	35%	Date set by exam office				

Popular science article

While they often go unnoticed, invertebrates influence the lives of humans in many ways. Invertebrates may be damaging pests in agricultural systems, vectors of important diseases (e.g., mosquitoes carrying malaria), an inspiration for design or the source of irrational fears (e.g., spiders and arachnophobia).

In this article, you are required to independently research the ways in which the lives of invertebrates and humans interact, and write an article suitable for a popular science audience. You should demonstrate scientific knowledge of the invertebrate groups researched, but also be able to argue to a wide audience how this knowledge is valuable.

This project aims to:

- emphasise the links between the biology of invertebrates and human activities
- provide experience in independent research
- provide experience in the communication of scientific information to a broad audience

You have a choice of four topics.

Topic 1: Inspired by invertebrates

The enormous diversity of form and function among the invertebrates are a great source of inspiration for those looking to nature for advances in technology. The field of *biomimicry* aims to study natural systems with the goal of using designs from nature to help produce more sustainable human technologies.



Explore some examples of how technology has been inspired by invertebrate biology.

Topic 2: Invertebrates and human health

Invertebrates are a common source of disease, either as parasites or as vectors of diseases caused by microbes. They also play an important role in assisting with human health issues (e.g., as a source of novel drugs).



Explore some examples of how medicine has been challenged by, or helped by, invertebrate animals.

Topic 3: Invertebrate influences on human history

While not widely known, invertebrates have influenced human history in several ways (e.g., conflicts over valuable harvests, trade and exploration due to desire for valuable products, or impacts of disease).

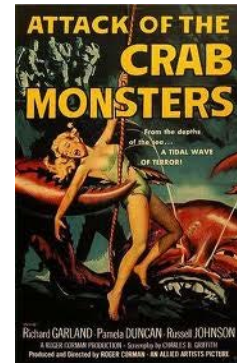
Explore how the outcome of major historical events has been altered by invertebrates.



Topic 4: Invertebrates in popular culture

Invertebrates are a common source of inspiration for movies, literature, artworks and songs. Those that feature more often are usually those that have more influential interactions with humans (e.g., not too many songs about deep sea worms, but plenty of movies about spiders).

Explore the traits of invertebrates that make them an attractive source of inspiration in art and popular culture



Look at articles in magazines like *New Scientist* or online science communication blogs for ideas on formatting a popular science article.

Each essay should include:

- A title (not the topic titles above)
- A focus on one or two examples, not a survey of the entire field
- Detail on which aspects of the group's biology (e.g., morphology, reproduction, feeding or behaviour) make it relevant to its influence on human activities.
- Some images to illustrate the organisms (if the images are not yours, make sure that you acknowledge the source)
- A list at the end of reference material (journal articles, books and web sites) used to complete the article. Do not cite these in the text as you would for a formal scientific report.

Word limit: 1500 words

Instructions for submitting the article on Moodle will be provided in Week 2.

The project is due **4 pm, Monday 13th August 2018**.

The article is worth **15% of your final mark**. Remember that copying text from books or web sites is unacceptable – see notes on academic honesty (below).

Field trip report

You are required to submit a report outlining the results from invertebrate field survey conducted at Chowder Bay, Sydney Harbour National Park. The report will address questions about:

1. The diversity of invertebrates collected from the survey, and,
2. The structure, feeding and reproduction of invertebrates in the habitats surveyed.

Detailed instructions for the report will be given prior to the field survey.

The report should not exceed 1500 words (not including figures, tables and references).

The report is due on **Monday 22nd October 2018**, and is worth **25% of your course mark**.

Laboratory tasks and practical exam

The practical classes will expose you to a great range of live and preserved invertebrates. Classes are divided into several components, each relating to one of the following aspects (not all components will be presented in every practical):

- Diversity
- Structure
- Feeding
- Reproduction and development
- Behavioural observation/experiment
- Invertebrate research at UNSW

Within each component there are several tasks (marked in bold in this manual, e.g., **1.5G Sea anemones**). These may involve; 1) written questions, 2) providing a labelled diagram of an organism or structure, 3) providing the results of a short experiment, or 4) providing illustrated notes on a particular aspect of feeding, reproduction or behaviour.

The tasks are designed so that it is clear what we expect you to learn from each specimen or display. A selection of the tasks will be included in the practical exam, along with new displays to test student ability to identify invertebrates, knowledge of the distinguishing characters of the major taxonomic groups, and knowledge of the structure and function of invertebrates covered in the practical classes.

The practical exam will be held during the final laboratory (**Week 13**). The practical exam is worth **25% of your course mark**

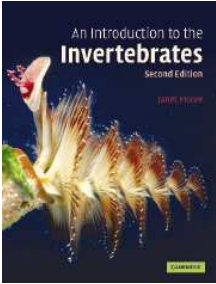
Final theory exam

The final exam, worth **35% of your course mark**, will test your knowledge of the lecture and practical material. The emphasis will be on issues covered in the course that allow us to contrast the biology of different invertebrate groups, rather than the details of a single taxonomic group (e.g., you will not get a question like “Tell us everything you know about snails”).

As with all exams, take care in reading the question and allocate your time in accordance with how many marks are allocated to a given question. Past exams are available on the course web site.

Attendance at exams is expected. Booking an overseas trip during the exam period is not considered a valid excuse for missing an exam.

Resources

<p>Text Books</p>	<p>Moore, J (2006) <i>An introduction to the invertebrates</i>. Second edition, Cambridge University Press.</p> <p>Availability: UNSW bookshop, UNSW library, Open Reserve</p>	
<p>Course Manual</p>	<p>You are reading it! (also available as pdfs from the course web site)</p>	
<p>Required Readings</p>	<p>Moore (2006)</p>	
<p>Additional Readings</p>	<p>You will find useful information in many other invertebrate texts. You may find the taxonomy used in these texts differs from that in Moore (2006) and that used in this manual. Some very good ones are:</p> <p>Anderson, DT (2001). <i>Invertebrate zoology</i>. 2nd edition. Oxford University Press, South Melbourne.</p> <p>Anderson, DT (1996) <i>Atlas of invertebrate anatomy</i>. University of New South Wales Press, Sydney.</p> <p>Brusca, RC, W Moore and S Shuster. 2016. <i>Invertebrates</i>. 3rd Edition, Sinauer Associates, Sunderland. (or earlier editions)</p> <p>Ruppert, EE, RS Fox and RD Barnes. 2004. <i>Invertebrate biology</i>. Thomson (any edition - there are 7).</p> <p>Pearse, V, J Pearse, M Buchsbaum and R Buchsbaum. 1987. <i>Living invertebrates</i>. Blackwell Scientific Publishing.</p>	
<p>Recommended Internet Sites</p>	<p>Course web page (Moodle)</p> <p>Slides from lectures, your results from tests and reports, and other useful resources will be posted throughout the session on the BIOS2031 web page. You will need to log on (using your student number and zpass) to Moodle at https://moodle.telt.unsw.edu.au/</p> <p>The course web site has a list of other useful sites for invertebrate biology.</p> <p>Lobsters to leeches Facebook page</p> <p>This page, maintained by Assoc. Prof. Poore, features weird and wonderful invertebrate news from UNSW and around the world. Access at https://www.facebook.com/Lobsters.to.leeches (you don't have to join Facebook).</p>	

Required Equipment, Training and Enabling Skills

Equipment Required	<p>You must bring the following to all lab classes:</p> <ul style="list-style-type: none"> • Laboratory coat – no admittance without lab coat • Closed footwear, no thongs, sandals or bare feet • Dissection instruments - including scissors, forceps, probes and scalpel (+scalpel handle) • Sharp HB pencils, plain paper and a ring binder with your name prominently placed • This laboratory manual
Enabling Skills Training Required to Complete this Course	<p>Students are required to observe OHS regulations during the fieldtrip and practicals. (Safety should be your top priority during fieldtrips and lab classes. If you are unsure of any procedures, please consult with staff).</p>

Course evaluation and development

Student feedback is gathered periodically by various means. Such feedback is considered carefully with a view to acting on it constructively wherever possible. This course outline conveys how feedback has helped to shape and develop this course.

Mechanisms of Review	Last Review Date	Comments or Changes Resulting from Reviews
Major Course Review	2004	Course entirely revised in 2004 with the aims of simplifying the presentation of course material, organisation of practical classes along functional themes, aligning assessments to desired activities in practical classes, and relating invertebrate biology to other sciences and the wider society.
	2008	The change from 14 week to 12 week sessions has involved the removal of two practicals and submission of one rather than two laboratory reports.
	2008, 2011, 2014	New field trips
CATEI⁹		The course was evaluated with CATEI in 2007- 2009,2011 and 2014. While the responses were overwhelmingly positive (96–100% of the respondents satisfied with the quality of the course), several changes resulting from these evaluations have been implemented. The most important of these is a reduction in the time spent on the field trip (2 days rather than 4) keeping the time spent in proportion to the value of that report for the overall course mark, and changes to the assessment structure.

Administration matters

Expectations of Students	Attendance at practical classes is compulsory and material will not be presented at other times. Less than 75% attendance will result in an unsatisfactory fail. Any problems or queries with assessment should be addressed to the course convenor, Associate Professor Poore.
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⁹ Science CATEI procedure: <http://teaching.unsw.edu.au/catei>

Assignment Submissions	<p>Submitted assignments are to be placed in the assignment box at the BEES Undergraduate Office (Rm G27). Assignments must fulfil conditions of the BEES Assignment cover sheet, which must be attached. The cover sheet lists penalties for late submission, and there is a declaration stating that you have kept a copy and that the report is your own and has not been previously submitted for assessment.</p> <p>School policy for late report submission For reports submitted up to seven (7) days late, a 10% per day penalty applies. Reports submitted more than seven (7) days late will not be marked.</p> <p>If medical grounds preclude submission of a report by the due date, contact should be made with the course convenor as quickly as possible. A medical certificate will be required for late submission on medical grounds and must be appropriate for extension period.</p>								
Occupational Health and Safety¹⁰	<p>Information on relevant Occupational Health and Safety policies can be found at:</p> <ul style="list-style-type: none"> • http://www.safety.unsw.edu.au/ • http://www.bees.unsw.edu.au/health-and-safety 								
Assessment Procedures	<p>The final examination will be scheduled by the Examinations Office. Students should be available for examination throughout the entire UNSW end-of-session examination period. Supplementary examinations will only be granted to students who miss the final examination due to illness or other unexpected reasons outside their control. A student who wishes to apply for a supplementary examination should contact the course coordinator as soon as the problem becomes apparent, and should apply for special consideration. (Special consideration cannot be given for students who have planned or wish to plan any holiday trips or return flights home before the end of the examination period.) If a supplementary examination is granted, it will normally be held before the beginning of the next session. Until then, you should maintain a current address with SIS, and be available for contact and assessment.</p> <p>For information on examinations see https://student.unsw.edu.au/exams</p> <p>The conditions for special consideration are given at https://student.unsw.edu.au/special-consideration</p>								
Equity and Diversity	<p>Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course Convenor prior to, or at the commencement of, their course, or with Disability Support Services (http://www.studentequity.unsw.edu.au/)</p> <p>Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.</p>								
Grievance Policy¹¹	<table border="1"> <thead> <tr> <th data-bbox="512 1655 802 1738">School Contact</th> <th data-bbox="802 1655 1114 1738">Faculty Contact</th> <th data-bbox="1114 1655 1331 1738">University Contact</th> </tr> </thead> <tbody> <tr> <td data-bbox="512 1738 802 1906"> BEES Grievance Officer A.Prof. Jes Sammut j.sammut@unsw.edu.au Tel: 9385 8281 </td> <td data-bbox="802 1738 1114 1906"> A/Prof Chris Tisdell Associate Dean (Education) Tel: 9385 6792 cct@unsw.edu.au </td> <td data-bbox="1114 1738 1331 1906"> Compass University Counselling Services¹² Tel: 9385 5418 </td> </tr> </tbody> </table>	School Contact	Faculty Contact	University Contact	BEES Grievance Officer A.Prof. Jes Sammut j.sammut@unsw.edu.au Tel: 9385 8281	A/Prof Chris Tisdell Associate Dean (Education) Tel: 9385 6792 cct@unsw.edu.au	Compass University Counselling Services ¹² Tel: 9385 5418		
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¹⁰ UNSW Occupational Health and Safety: <http://www.safety.unsw.edu.au/>

¹¹ UNSW Grievance Policy: <http://www.gs.unsw.edu.au/policy/index.html>

Special consideration and further assessment semester 2 2018

Students who believe that their performance, either during the session or in the end of session exams, may have been affected by illness or other circumstances may apply for special consideration. Applications can be made for compulsory class absences such as (laboratories and tutorials), in-session assessments tasks, and final examinations. **Students must make a formal application for Special Consideration** for the course/s affected as soon as practicable after the problem occurs and **within three working days of the assessment to which it refers**.

Students should consult the "Special Consideration" section of the UNSW current students' website for further information <https://student.unsw.edu.au/special-consideration>.

How to apply for special consideration

Applications must be made via Online Services in myUNSW. **You must obtain and attach Third Party documentation before submitting the application. Failure to do so will result in the application being rejected.** Log into myUNSW and go to **My Student Profile tab > My Student Services channel > Online Services > Special Consideration**. After applying online, students must also verify supporting their documentation by submitting to [UNSW Student Central](#):

- Originals or certified copies of your [supporting documentation](#) (Student Central can certify your original documents), and
- A completed [Professional Authority form \(pdf - download here\)](#).

The supporting documentation must be submitted to Student Central for verification within three working days of the assessment or the period covered by the supporting documentation. Applications which are not verified will be rejected.

Students will be contacted via the online special consideration system as to the outcome of their application. Students will be notified via *their official university email once an outcome has been recorded*.

Supplementary examinations:

The University does not give deferred examinations. However, further assessment exams may be given to those students who were absent from the final exams through illness or misadventure. Special Consideration applications for final examinations and in-session tests will only be considered after the final examination period when lists of students sitting supplementary exams/tests for each course are determined at School Assessment Review Group Meetings. Students will be notified via the online special consideration system as to the outcome of their application. **It is the responsibility of all students to regularly consult their official student email accounts and myUNSW in order to ascertain whether or not they have been granted further assessment.**

For Semester 2 2018, BEES Supplementary Exams will be scheduled on:

8th - 15th of December 2018

Further assessment exams will be offered on this day ONLY and failure to sit for the appropriate exam may result in an overall failure for the course. Further assessment will NOT be offered on any alternative dates.

UNSW academic honesty and plagiarism

What is Plagiarism?

Plagiarism is the presentation of the thoughts or work of another as one's own.

*Examples include:

- direct duplication of the thoughts or work of another, including by copying material, ideas or concepts from a book, article, report or other written document (whether published or unpublished), composition, artwork, design, drawing, circuitry, computer program or software, web site, Internet, other electronic resource, or another person's assignment without appropriate acknowledgement;
- paraphrasing another person's work with very minor changes keeping the meaning, form and/or progression of ideas of the original;
- piecing together sections of the work of others into a new whole;
- presenting an assessment item as independent work when it has been produced in whole or part in collusion with other people, for example, another student or a tutor; and
- claiming credit for a proportion a work contributed to a group assessment item that is greater than that actually contributed.†

For the purposes of this policy, submitting an assessment item that has already been submitted for academic credit elsewhere may be considered plagiarism.

Knowingly permitting your work to be copied by another student may also be considered to be plagiarism.

Note that an assessment item produced in oral, not written, form, or involving live presentation, may similarly contain plagiarised material.

The inclusion of the thoughts or work of another with attribution appropriate to the academic discipline does *not* amount to plagiarism.

The following website is a resource for students on plagiarism and academic honesty.

<https://student.unsw.edu.au/plagiarism>

The Learning Centre also provides substantial educational written materials, workshops, and tutorials to aid students, for example, in:

- correct referencing practices;
- paraphrasing, summarising, essay writing, and time management;
- appropriate use of, and attribution for, a range of materials including text, images, formulae and concepts.

Individual assistance is available on request from The Learning Centre.

Students are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting, and the proper referencing of sources in preparing all assessment items.

* Based on that proposed to the University of Newcastle by the St James Ethics Centre. Used with kind permission from the University of Newcastle

† Adapted with kind permission from the University of Melbourne