
BIOL362: Ecophysiology

Subject Outline

6 credit points

Subject Information

Autumn, 2026, Wollongong
On Campus

Flexible Delivery A combination of online and on-campus or location-based components where the on-campus/location component is compulsory

Subjects with a delivery mode of On Campus and/or Flexible with International Student enrolments will be delivered in accordance with the ESOS National Code. That is, online learning experiences (such as lectures, tuition, and resources) will be supplementary to in-person learning experiences such as scheduled classes and/or scheduled contact hours.

UOW may need to modify teaching locations, teaching delivery, and assessment delivery at short notice in response to unforeseen circumstances such as health or environmental factors.

For up-to-date information please refer to your subject's Moodle site.

The Faculty of Science, Medicine and Health

The Faculty of Science, Medicine and Health offers a range of undergraduate and postgraduate programs designed to meet the needs of a diverse student population. We carry out world-leading research which is strongly aligned with our teaching program

As a student of our faculty, you will be actively engaged in learning with extensive clinical, laboratory and/or field work experiences, use of advanced educational technologies and opportunities for enriching work experience. More information about the Faculty of Science, Medicine and Health and our School is available on our web pages: <https://www.uow.edu.au/science-medicine-health/>

Within many of our courses, attending a workplace experience or clinical placement is an exciting part of your course program. Whilst integral to your learning, these health-related placements also let you experience what it's like to work as a professional in real-life workplace settings. More information about requirements for Health Placements is available on our webpage: <https://www.uow.edu.au/student/health-placements/>

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Expectations of Students

UOW values are intellectual openness, excellence and dedication, empowerment and academic freedom, mutual respect and diversity, recognition and performance. We will provide a safe, equitable and orderly environment for the University community, and expect each member of our community to behave responsibly and ethically ([Student Conduct Rules](#)).

We expect that students demonstrate these values and professional behaviour, both face to face and online, making genuine efforts to complete their studies successfully, arriving on time to class, taking part constructively in class discussions and activities, demonstrating appropriate professional and ethical conduct in all communication with UOW staff and community members, and submitting assignments on time (or completing a request for Academic Consideration in advance if needed).

Guiding Communication Principles for Students

Moodle Announcements will be the primary platform for communication of general information to students

- Students should ensure they regularly check the main announcements forum at the top of each subject's Moodle site.
- It is the student's responsibility to check all subject Moodle sites regularly for information and notifications.

SOLS messages will be used for all central communication relating to the following:

- Administrative matters relating to student enrolment
- Critical information relating to course or subject, e.g. Changes to assignments, policy updates, class cancellations or changes
- Timetable information
- Security and emergency information
- Students are encouraged to check SOLS messages daily as these messages are often of high priority

SOLS and Moodle announcements can NOT be responded to.

Appropriate Online Behaviour

The University is committed to providing a safe, respectful, equitable and orderly environment for the University community, and expects each member of that community to behave responsibly and ethically. Students must comply with the University's [Student Conduct Rules](#) and related policies including the [IT Acceptable Use Policy](#) and [Bullying Prevention Policy](#), whether undertaking their studies face-to-face, online.

For more information on appropriate communication and etiquette in the online environment please refer to the guide [Online and Email Etiquette](#).

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Hardcopies of this document are considered uncontrolled please refer to your Moodle site for the latest version.

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Section A: General Information

Learning Outcomes

Subject Learning Outcomes

On successful completion of this subject, students will be able to:

1. Describe the physiological and biochemical responses of animals and plants to environmental variation
2. Identify how marine, aquatic & terrestrial environments select for biochemical and physiological adaptations in animals and plants
3. Explain aspects of the evolution of biochemical and physiological processes in organisms
4. Describe the influence of size and phylogeny in animal energetics;
5. Design experiments to answer specific physiological questions;
6. Analyse physiological data in an appropriate manner and present these effectively in graphical and written formats;
7. Utilise computers for data logging and analysis
8. Demonstrate accuracy, precision, honesty and respect for organisms under study;
9. Demonstrate safe practices and welfare of others in the lab (OH&S awareness);
10. Evaluate information sources;

Subject Description

Physiological and biochemical characterisation of organisms in relation to size, metabolic intensity, and response to environmental variables. Physiological responses of plants and animals to variations in light intensity, spectral quality, temperature, gas composition and pressure. Evolution of aerobic metabolism, aerobic capacity and endothermy. Physiological processes associated with phenotypic plasticity and adaptive traits. Physiological correlates of life-history variation. This subject may involve the use of animals, animal tissues or animal-derived products in order to achieve specific learning objectives.

Course Handbook

Information about subject pre-requisites, co-requisites and restrictions as well as course completion requirements and Course Learning Outcomes can be found in the [Course Handbook](#).

Subject Details: Practical Activities, eLearning, Readings and Materials

Subject eLearning

The University uses the eLearning system Moodle to support all coursework subjects. The subject Moodle site can be accessed via your SOLS page.

Safety Guidelines

The rules below are general rules that are required when participating in labs, practicals, fieldwork or simulated fieldwork activities. Before commencing these activities, you are to ensure that you understand specific procedures and policy related to safety.

- All first-year students undertaking Chemistry (CHEM101/102/104/105) must complete the Moodle WHS Induction (see the subject Moodle site for more details below)
- Before commencing lab/practical/fieldwork activity you are to ensure that you understand specific procedures and policy related to safety.

- You may need to review a Risk Assessment and complete a Participant Acknowledgement form before commencing any fieldwork/practical work. These materials will be made available by the supervisor/Subject Coordinator.
- You must inform the Subject Coordinator of any medical conditions which may impact upon your ability to participate in these activities before commencing the practical.
- All Reasonable Adjustment cases (Access Plans) must be discussed with the Subject Coordinator prior to commencing the activity.
- Participation in the lab/practical/field/simulation activities may be denied to students who do not abide by these, and other conditions which may be specified by the Subject Coordinator.
- Never use any equipment or attempt any experiment without checking the safety implications with your laboratory supervisor or experienced delegated laboratory worker
- Undergraduate students are not permitted to work after hours unless there is appropriate approval and supervision.
- For subjects including field trips, students may be required to contribute to costs associated with the provision of field trips that form part of the course of study.

EMBEDDED Work Integrated Learning

This subject contains elements of 'Embedded WIL'. Students in this subject will experience activities that relate to or simulate professional practice as part of their learning.

Additional Subject Details

Ethical Objection to the Use of Animal and Animal Products

In order to achieve specific learning objectives, the use of animals, animal tissues, and or animal-derived products (such as sera) is inherent and unavoidable. Students with conscientious objections to this use should not enrol in this subject.

Students who intend to avoid a particular learning activity on the basis of conscientious objection should notify the subject coordinator in writing as soon as possible and **not later than the end of Week 1 of the session**.

Students who do not participate in a particular learning activity are required to complete an alternative exercise (online) or attend the practical and "observe". The material involved is examinable.

Using Generative Artificial Intelligence (GenAI)

UOW is committed to embracing gen AI as a tool to enhance learning and development of important digital and work-readiness skills.

Your subject coordinator will provide specific guidance on the use of gen AI in your assessment tasks via your Subject Outline and/or your subject Moodle site. If gen AI use is permitted, it should be used thoughtfully, critically, and in ways that support your own learning.

Guidance on appropriate use of AI in assessments, including how to [acknowledge GenAI](#) can be found on the [Using Generative Artificial Intelligence in Assessment website](#)

You are responsible for all work you submit, and ethical use of gen AI is an important part of maintaining academic integrity. Misuse or unauthorised use may breach the [Academic Integrity Policy](#).

Major Text(s)

Recommended Readings

There are a number of text chapters and articles that complement the prescribed readings and textbooks, but students **are not expected to purchase these**. They are available to students through the library on the subjects eLearning site. The appropriate sections will be highlighted during classes.

Recommended readings are not intended as an exhaustive list, students should use the Library catalogue and databases to locate additional resources. You are expected to use more than these books and to find and use both review articles as well as the primary scientific literature (i.e. scientific research papers) in your assignments.

A reference list of articles related to each practical will be made available through eLearning. You should also use the library database searches to find information on your research paper topic and current literature related to it. Library: <http://www.library.uow.edu.au/>

Ask our friendly librarians for help with your research, in the library or online

Prescribed texts

Principles of Animal Physiology. By: Christopher D. Moyes; Patricia M. Schulte Publisher: Pearson Canada. Print ISBN: 9780321838179, 0321838173. eText ISBN: 9780134568683, 0134568680. Edition: 3rd.

Plant Physiology and Development. By: Lincoln Taiz; Eduardo Zeiger; Ian M. Møller; Angus Murphy. eISBN-13: 9781605354354. 6th Edition

Reference Texts (in addition to the two prescribed texts listed above):

- Barboza, P.S., Parker, K., L. & Hume, I.D. (2009) Integrative Wildlife Nutrition. Springer-Verlag, Berlin.
- Buchanan, B.B., Gruissem, W. & Jones, R.L. (eds.) (2015) Biochemistry and molecular biology of plants. American Society of Plant Physiologists, Rockville, MD
- Hochacka, P.W. & Somero G.N. (2002) Biochemical adaptation: mechanism and process in physiological evolution. Oxford University Press, New York.
- Hopkins, W.G. (2008) Introduction to Plant Physiology 4th Ed. Wiley & Sons, New York.
- Lambers, H., Chapin, F.S. III, Pons, T.L. (2008) Plant Physiological Ecology 2nd Ed. Springer, New York.
- Randall, D., Burggern, W. & French, K. (2002) Eckert Animal Physiology: mechanisms and adaptations. 5th Ed. W.H. Freeman and Co., New York, USA.
- Robinson, S.A. Russell, A.W. & Netherwood, G.M.A. (2002) Photosynthesis in silico. (CD) UoW.
- Schmidt-Nielsen, K. (1997) Animal physiology: adaptation and environment. 5th Ed. Cambridge University Press, New York.
- Withers, P.C. (1992) Comparative animal physiology. Saunders College Publ., Fort Worth.

General Comparative Physiology Books:

- Gordon M.S. et al. (1983) Animal physiology: principles and adaptations. 4th edition, MacMillan New York.
- Schmidt-Nielsen K. (1990) Animal physiology: adaptation and environment. 4th edition, Cambridge Uni. Press.
- Eckert R. D. Randall & G. Augustine (1988) Animal physiology: mechanisms and adaptations. 3rd edition. W.H. Freeman & Co., New York.
- Hume, I.D. (1999) Marsupial Nutrition. Cambridge University Press, Cambridge, UK.
- Hill R.W. (1976) Comparative physiology of animals: an environmental approach. Harper & Row, N.Y.
- Prosser C.L. (ed) (1991) Environmental and metabolic animal physiology. Wiley-Liss, New York.
- Prosser C.L. (ed.) (1991) Neural and integrative animal physiology. Wiley-Liss, New York.
- Taylor, C.R., K. Johansen, and L. Bolis, eds. (1982). A companion to animal physiology. Cambridge Univ. Press.

More Specialised Books:

- Campbell G.S. (1977) An introduction to environmental biophysics. Springer-Verlag, New York.
- Kooyman, G. L. (1989) Diverse divers: physiology and behavior. Springer Verlag.
- Monteith, J.L. and Unsworth, M.H. (1990) Principles of environmental physics. Butterworth-Heinemann, Oxford, UK.
- Walker, David, (1992) Energy, Plants and Man. Oxygraphics, Brighton.

Writing about Biology: These books will help you to write better reports etc.

- Knisely, K. (2013). A Student Handbook for Writing in Biology. 4th edition. (Sinauer/ W.H. Freeman and Company, Sunderland, USA.).
- Pechenik, J. A. (2016). A Short Guide to Writing about Biology. 9th edition. (Pearson Longman, New York, USA.).

Recommended readings are not intended as an exhaustive list, students should use the Library catalogue and databases to locate additional resources.

If there is a textbook available for purchase, you can find the details at University Bookshop
<https://unishop.uow.edu.au/>

Lectures, Tutorials and Attendance Requirements

Lecture Times *

UOW may need to modify teaching locations, teaching delivery, and assessment delivery at short notice in response to unforeseen circumstances such as health or environmental factors.

For up-to-date information please refer to your subject's Moodle site.

Up to date timetable and delivery information is located at
<http://www.uow.edu.au/student/timetables/index.html>

You can access your personal timetable by logging into SOLS and selecting 'My Timetable'

Lecture Program *

Week	Commencing	Topics Covered	Readings
	20 Apr 2026	Mid-Session Recess	
	08 Jun 2026	Study Recess	
	13 Jun 2026	Examinations	
	20 Jun 2026	Examinations	

* The above times and program may be subject to change. Students will be notified of any change via SOLS.

Additional Lecture Comments

Lecture and practical schedule

(Note this schedule is subject to change, which will be announced on the BIOL362 Moodle site)

Week	Monday	Lecture A	Lecture B	Practical	Tutorial
		Friday 11:30 – 12:30	Friday 12:30 – 13:30	Thursday 13:30 – 15:30 OR 15:30 – 17:30	Thursday 12:30 – 13:30
1	2-Mar	P1. Plants in a changing climate 1 (RK)	P2. Plants, pigments and light (RK)	No Prac: Review BIOL105 Plant Physiology	Leaf thermal tolerance (Online)
2	9-Mar	P3. Understanding carbon fixation (RK)	P4. Photosynthesis (RK)	Leaf thermal tolerance 1 (RK)	Fluorescence (Online)

3	16-Mar	P5. Plants and light: friend or foe (RK)	P6. Plants and abiotic stress (RK)	Leaf thermal tolerance 2 (RK)	Carotenoids and their benefits (Online)
4	23-Mar	P7. Plants in the understory: Sunflecks (RK)	P8. Protective pigments in plants (RK)	Carotenoids (RK)	
5	30-Mar	No Lecture – Good Friday			Plant revision (RK)
6	6-Apr	P9. Plants and the ozone hole (RK)	P10. Plants in a changing climate 2 (RK)		
7	13-Apr	A1. No place like Bio-homes: challenges for life on Earth (CF)	A2. Timeline of Environmental Signal Integration in Physiology (CF)	Form, Function, and Flight: Seabird Wing Bones and Ecology (CF) in 43.101	Hypothesis writing and data analysis (Online or pre-recorded) (CF)
Recess	20-Apr	Mid-Session Recess			
8	27-Apr	No Lecture	No Lecture	Mid-session quiz	
9	4-May	A3. Scaling and allometry: size matters (physics insists) (CF)	A4. Calories are currency: allocation, trade-offs, and fitness (CF)	Animal Energetics Lab: Metabolic Rate Across Temperatures (Snails). in 43.101 (CF)	Modelling nature: introduction/review of statistical approaches using R & RStudio (Online or pre-recorded) (CF)
10	11-May	A5. Thermal physiology: from molecules to mortality (CF)	A6. Thermoregulate: heat budgets, behaviour, and limits (CF)	Wind, Rain, and Fur: Surviving the Elements in 43.101 (CF)	Data analysis and research report question time (Online Zoom) (CF)
11	18-May	A7. Life with less air: oxygen from diffusion to delivery (CF)	A8. Wet, dry, salty: water–salt balance across habitats (CF)	Running on Empty: Dehydration, Temperature, and Performance in 43.101 (CF)	Scaling equations in biology. (Online or pre-recorded) (CF)
12	25-May	A9. Same species, different stories: geographic variation in physiology (CF)	A10. Forecasting physiology: exposure, sensitivity, and capacity (CF)	Hot Lizards, Cool Models: Predicting When Animals Can Move (NicheMapR). in 43.101	
13	1-June	A11. That scales: mitochondria to ecosystems (CF)	A12. Flex lecture: catch-up, case studies, and review (CF)		

Recording of Teaching and Learning Activities

The University of Wollongong supports the recording of UOW educational content as a supplemental study tool, to provide students with equity of access, and as a technology-enriched learning strategy to enhance the student experience.

If you make your own recording of a lecture, class, seminar, workshop or any other educational session provided as part of your course of study you can only do so with the explicit permission of the lecturer and those people who are also being recorded.

You may only use educational content recorded through the delivery of subject or course content, whether they are your own or recorded by the university, for your own educational purposes. Recordings cannot be altered, shared or published on another platform, without permission of the University, and to do so may contravene the University's Copyright Policy, Privacy Policy, Intellectual Property Policy, IT Acceptable Use Policy and Student Conduct Rules. Unauthorised sharing of recordings may also involve a breach of law under the Copyright Act 1969.

Most lectures in this subject will be recorded, when they are scheduled in venues that are equipped with lecture recording technology and made available via the subject Moodle site within 48 hours.

Your Privacy - Recording of Teaching and Learning

In accordance with the Student Privacy & Disclosure Statement, and Lecture Recording Procedures when undertaking our normal teaching and learning activities, the University may collect your personal information. This collection may occur incidentally during the recording of lectures in equipped venues (i.e. when your identity can be ascertained by your image, voice or opinion), or via the delivery of online content therefore the University further advises students that:

- Lecture recordings are made available to students, university staff, and affiliates, securely via the Learning Platform;
- Recordings are made available only for the purpose for which they were recorded, for example, as a supplemental study tool or to support equity and access to educational resources;

If you have any concerns about the use or accuracy of your personal information collected in a lecture recording, you may approach your Subject Coordinator to discuss your particular circumstances.

The University is committed to ensuring your privacy is protected. If you have a concern about how your personal information is being used or managed, please refer to the University's Privacy Policy or consult our Privacy webpage <https://www.uow.edu.au/privacy/>

Tutorial/Seminar/Workshop Times

The Faculty uses the SMP Online Tutorial System and your class times and locations can be found at <https://www.uow.edu.au/student/timetables/index.html>. Please note that class times on the timetable are provisional and may change.

Tutorial/Seminar/Workshop Program

Where the restrictions require temporary adjustments for delivery and tutorial/seminar/workshop arrangements, any necessary changes will be advised and provided by your Subject Coordinator. Please check Subject Moodle site regularly

Week	Week Commencing	Topics Covered	Readings and Activities
1	02 Mar 2026	Animal energetics Hypothesis writing and data analysis	
2	09 Mar 2026	Scaling Hypothesis writing and data analysis	
3	16 Mar 2026	Writing a scientific paper	
4	23 Mar 2026	Dry practical to be confirmed	
5	30 Mar 2026	Life cycles, heating, desiccating and starving	
6	06 Apr 2026	Data analysis and report question time	
7	13 Apr 2026	No practical - revise plant physiology from BIOL105	

	20 Apr 2026	Mid-Session Recess	
8	27 Apr 2026	No practical - mid session quiz in practical time	
9	04 May 2026	Leaf thermal tolerance: conductivity Fluorescence activity	
10	11 May 2026	Leaf thermal tolerance: chlorophyll fluorescence Carotenoids - benefits	
11	18 May 2026	Carotenoids lab	
12	25 May 2026	No practical Plant revision tutorial	
13	01 Jun 2026	No practical or tutorial	
	08 Jun 2026	Study Recess	
	13 Jun 2026	Examinations	
	20 Jun 2026	Examinations	

The above program may be subject to change.

Recent Improvements to Subject

The Faculty of Science, Medicine and Health is committed to continual improvement in teaching and learning and takes into consideration student feedback from many sources including, direct student feedback to tutors and lecturers and responses to the Subject and Course Evaluation Surveys. Feedback is also used to inform comprehensive reviews of subjects and courses.

Extraordinary Changes to the Subject Outline

In extraordinary circumstances the provisions stipulated in this Subject Outline may require amendment after the Subject Outline has been distributed. All students enrolled in the subject must be notified and have the opportunity to provide feedback in relation to the amendment, where practicable, prior to the amendment being finalised.

Learning Analytics

Learning Analytics data (such as student engagement with Moodle, access to recorded lectures, University Library usage, task marks, and use of SOLS) may be used by the Subject Coordinator and your faculty's Head of Students to assist in analysing student engagement, and to identify and recommend support for students identified who may be in need of assistance. If you have questions about the kinds of data the University uses, how we collect it, and how we protect your privacy in the use of this data, please refer to <https://www.uow.edu.au/privacy/>

Section B: Assessment

Assessment Summary

Assessment Item	Form of Assessment	%
Assessment 1	Report	25%
Assessment 2	Quiz	25%
Assessment 3	Assignment	10%
Assessment 4	Exam	40%
	TOTAL MARKS	100%

Please note: Copies of student work may be retained by the University in order to facilitate quality assurance of assessment processes.

Assessment 1: Report - Research Report

Marking Criteria	The marking criteria for this assessment task will be made available in eLearning.
Length	To be announced
Weighting	25%
Assessment Due	13 Apr 2026 (Monday in Session Week 7) Final submission time: 11:59pm
Type of Collaboration	Individual assessment
Style and format	Short Report: referenced introduction, methods and results and short discussion of the Snail prac data collected in week 9 (check timetable in Moodle for detailed instructions and updates of the due date).
Generative AI use	<p>Permitted: Yes (limited use). You may use Generative AI tools to support <i>your process</i> (including coding support), but you must not use GenAI to generate the assessed scientific content of your report.</p> <p>You may use GenAI to:</p> <ul style="list-style-type: none"> brainstorm an outline and improve the structure of your report; proofread and edit <i>your own</i> writing for clarity, grammar, and concision; help format tables/figure captions and refine wording for axis labels (you must choose what is scientifically correct); ask for explanations of general concepts (e.g., what metabolic rate means, why temperature affects rates) to support your learning; get coding advice and troubleshooting for data handling, plotting, and statistical analysis (e.g., fixing errors in R code, explaining what a function does, suggesting how to reshape data, or how to run a model), provided you apply it to your own dataset and verify it. <p>You must not use GenAI to:</p> <ul style="list-style-type: none"> write the report (or substantial parts of it) for you; generate your methods or results sections (including drafting text, selecting/justifying statistical tests, or writing up outputs); generate interpretive statements (e.g., what your p-values “mean,” which hypothesis is supported, or what conclusions to draw); fabricate data, methods, results, references, or citations, or report analyses you did not perform. <p>If you use GenAI: include a brief acknowledgement at the end of your report stating what tool you used and how you used it (e.g., “R code troubleshooting for plotting” / “proofreading for clarity”). You may be asked to show your working (scripts, calculations, draft notes, or version history) to demonstrate evidence of authorship.</p>

	Use of GenAI beyond what is permitted for this task may be treated as a breach of academic integrity under UOW assessment requirements.
Assessment submission	Online via Moodle This assessment task has been set up to be checked by Turnitin, a tool for checking if it has unreferenced content. You can submit your assessment task to Turnitin prior to the due date and Turnitin will give you an originality report. You can then make any changes that may be required and re-submit your final version by the due date.
Assessment return	Within 15 working days of due date
Detailed information	Students will work groups to collect data in lab practicals and then work individually to synthesise data into a written scientific journal style report. This will involve collating, analysing, presenting and evaluating these data with reference to primary literature sources. Specific details about this assessment task will be available on eLearning.

Assessment 2: Quiz - Mid-session Quiz

Marking Criteria	Accuracy of answers marked against a standardised marking sheet.
Length	1.5-2 hours
Weighting	25%
Assessment Due	30 Apr 2026 (Thursday in Session Week 8)
Type of Collaboration	Individual assessment
Style and format	Essay, graphing and short answer type questions. This will be an on-campus invigilated exam. Further details provided on eLearning
Generative AI use	Generative AI (GenAI) statement — On-campus invigilated paper exam Permitted: No. Generative AI tools (e.g., ChatGPT and similar systems) are not permitted in this assessment. This is a closed, invigilated on-campus paper exam designed to assess your individual knowledge and skills under exam conditions . As a paper-based, supervised assessment, there is no appropriate or equitable way to use GenAI while maintaining academic integrity and consistent conditions for all students. Any use of GenAI (or attempting to access GenAI) during the exam would be treated as a breach of academic integrity under University assessment requirements and may result in penalties.
Assessment submission	Submit a hard copy of the quiz at the end of the exam period (note check with course schedule and announcements on Moodle for the exact date and venue)
Assessment return	Within 15 working days of the quiz

Assessment 3: Assignment - Practical reports

Marking Criteria	Marking criteria will be clarified on Moodle.
Length	To be confirmed
Weighting	10%
Assessment Due	14 May 2026 (Thursday in Session Week 10) 21 May 2026 (Thursday in Session Week 11) 28 May 2026 (Thursday in Session Week 12) Final submission time: 11:30pm
Type of Collaboration	Individual assessment
Style and format	This assignment has two components: i. Mini reports 2, 3 and 4 based on the plant practicals in weeks 7, 9, 10-12. These are short workbook style reports of between 200 and 800 words or/and answers to a set list of questions. ii. A short research question relating to heat stress in plants. Students will find an academic paper, answer a few short questions on it (maximum 500 words) and sketch a graphical abstract.
Generative AI use	Permitted: Yes (limited use). In this assessment you may use Generative AI tools only to support your process , not to produce the assessed scientific content. You may use GenAI to: <ul style="list-style-type: none"> • brainstorm and plan an outline or checklist for your responses; • improve clarity, grammar, and structure of <i>your own</i> writing (proofreading/editing); • help design the layout of a graphical abstract (e.g., suggesting a panel structure or label wording); • ask for explanations of general concepts to support your learning. You must not use GenAI to: <ul style="list-style-type: none"> • write your mini-report answers (or substantial parts of them); • generate your interpretations, reasoning, or conclusions; • summarise the academic paper in place of reading it, or generate answers that are not supported by the paper; • create the content of the graphical abstract (claims/relationships) beyond layout support; • fabricate references, quotations, data, methods, results, or citations. If you use GenAI: include a short acknowledgement at the end of your submission stating what tool you used and how you used it (e.g., “proofreading for clarity” / “outline suggestions”). You may be asked to provide draft notes/version history to demonstrate authorship. Use of GenAI beyond what is permitted for this task may be treated as a breach of academic integrity under UOW assessment requirements.
Assessment submission	Online via Moodle This assessment task has been set up to be checked by Turnitin, a tool for checking if it has unreferenced content. You can submit your assessment task to Turnitin prior to the due date and Turnitin will give you an originality report. You can then make any changes that may be required and re-submit your final version by the due date.
Assessment return	Within 15 working days of due date
Detailed information	Details to be provided on eLearning

Assessment 4: Exam - Final Examination

Marking Criteria	Accuracy of answers marked against a standardised marking sheet
Length	To be announced
Weighting	40%
Assessment Due	To Be Announced
Type of Collaboration	Individual assessment
Style and format	Final exam covering mostly animal material.
Generative AI use	Permitted: No. Generative AI tools (e.g., ChatGPT and similar systems) are not permitted in this assessment. This is a closed, invigilated on-campus paper exam designed to assess your individual knowledge and skills under exam conditions . As a paper-based, supervised assessment, there is no appropriate or equitable way to use GenAI while maintaining academic integrity and consistent conditions for all students. Any use of GenAI (or attempting to access GenAI) during the exam would be treated as a breach of academic integrity under University assessment requirements and may result in penalties.
Assessment return	Feedback is not normally provided for the final examination. After final subject results have been released, students may request their final examination mark from the Subject Coordinator and arrange to view/discuss their exam performance. Requests must be made as soon as possible, and no later than 20 days after the release of results, in line with the UOW Assessment and Feedback Policy.
Detailed information	Details to be provided on eLearning (Moodle). This will be a paper on-campus invigilated exam.

Minimum Requirements to Pass this Subject

UOW policy equates 1 credit point with approximately 2 hours of study per week, including scheduled lectures and tutorials/workshops/practicals, prescribed readings, and work on assessment tasks. For example, in a 6 credit point subject such as BIOL362, students are expected to complete a total of approximately 12 hours of study per week. It is expected that students will allocate around 12 hours per week to this subject, including class engagement, prescribed readings, and assessment preparation and completion.

Attendance and participation (strongly recommended).

Attendance at lectures, tutorials and practicals strongly supports learning and achievement in BIOL362. Students are therefore strongly encouraged to attend and participate in all scheduled classes (on campus and online) and to engage fully with all required learning activities. Where classes are scheduled online, any technical issues that prevent participation should be reported to the Subject Coordinator within 24 hours of the class.

Academic Consideration.

If attendance or assessment performance is affected by compassionate, compelling, or extenuating circumstances, an Academic Consideration application should be lodged via SOLS with supporting documentation (e.g., a Medical Certificate) and submitted to Student Central as soon as practical. For further details about applying for Academic Consideration, visit the Student Central webpage:

<http://www.uow.edu.au/student/central/academicconsideration/index.html>

Requirements to Pass this Subject

To receive a clear pass in this subject, students must achieve an overall subject mark of **50% or more**. Students are also expected to **attempt all assessment tasks**, as missing assessment items will substantially reduce your overall mark and may prevent you from reaching the 50% required to pass.

Hurdle Assessment

Subjects may include a hurdle assessment. A hurdle assessment is an assessment that requires a minimum level of performance as a condition for passing the subject. Examples include, achievement of a pass grade or above in a skills-based assessment or final examination. Hurdle assessments are applied to subjects to ensure students:

1. meet learning outcomes
2. demonstrate you can complete a task safely and/or meet professional standards.

For more on hurdle assessments see the Assessment and Feedback Policy [Section 8: Hurdle Assessments \(50-51-52\)](#).

Failure to meet a hurdle assessment requirement may constitute grounds for the award of a Technical Fail (TF) grade in this subject.

Should this subject contain a hurdle assessment, it will be stated under the specific assessment in Section B: Assessments.

UOW Grade Descriptors

The UOW Grade Descriptors are general statements that communicate what our grades represent, in terms of standards of performance, and provide a frame of reference to ensure that assessment practice across the University is appropriate, consistent and fair. Grade Descriptors are expressed in general terms so that they are applicable to a broad range of disciplines. Grade Descriptors are available here <https://www.uow.edu.au/student/exams/results/>. For more information on the UOW grade descriptors refer to the Teaching and Assessment: Assessment and Feedback Policy: [Teaching and Assessment: Assessment and Feedback Policy](#)

Assessment Learning Outcome Matrix

Learning Outcomes	Measures - Assessment weighting			
	Research Report (25%)	Mid-session Quiz (25%)	Practical reports (10%)	Final Examination (40%)
Describe the physiological and biochemical responses of animals and plants to environmental variation	✓	✓	✓	✓
Identify how marine, aquatic & terrestrial environments select for biochemical and physiological adaptations in animals and plants	✓	✓	✓	✓
Explain aspects of the evolution of biochemical and physiological processes in organisms	✓	✓	✓	✓
Describe the influence of size and phylogeny in animal energetics;			✓	✓
Design experiments to answer specific physiological questions;	✓	✓	✓	✓
Analyse physiological data in an appropriate manner and present these effectively in graphical and written formats;	✓		✓	✓
Utilise computers for data logging and analysis	✓	✓	✓	✓

Learning Outcomes	Measures - Assessment weighting			
	Research Report	Mid-session Quiz	Practical reports	Final Examination
	(25%)	(25%)	(10%)	(40%)
Demonstrate accuracy, precision, honesty and respect for organisms under study;	✓			
Demonstrate safe practices and welfare of others in the lab (OH&S awareness);	✓			
Evaluate information sources;	✓			

Submission, Retention and Collection of Written Assessment

Assessed work must be handed in by the date and time listed under each assessment task. All assessment tasks must represent the enrolled student's own ORIGINAL work and must not have been previously submitted for assessment in any formal course of study.

Extensions

Students requesting an extension of time to submit an assessment task, deferred exam or exemption of a compulsory attendance requirement, must apply using Academic Consideration through SOLS. Students must apply before, or on the assessment/s due date and where evidence is required, students must provide evidence no later than three working days after the assessable item's due date for their request to be considered. **For information on the Academic Consideration Policy, eligibility requirements and how to apply, see:** <https://www.uow.edu.au/student/admin/academic-consideration/>

Late Submission of Assessment Tasks and Penalties

Assessed work must be submitted in by the date and time given. If an assessment is submitted late, it will be marked in the normal way, and a penalty will then be applied.

In the absence of an approved request for Academic Consideration in the form of an extension, assessment tasks must be submitted in line with the assessment instructions.

- An assessment task that is submitted late will receive a penalty of 5% of the total possible marks for each 24-hour period, or part thereof, that it is late.
- Work submitted after seven calendar days will not be marked and will be given a mark of 0.
- No assessment task can be handed in for a mark once the assessment task has been returned to students.
- Penalties accrue on each day that the assessment task is late, including Saturday, Sunday and public holidays

Note: Assessments must still be submitted to meet minimum performance requirements even though no mark is to be awarded.

Collection

Students will be notified when they can collect or view their marked assessment. In accordance with University Policy marked assessments will usually only be held for 21 days after the declaration of marks for that assessment.

Retention

The university may retain copies of student work in order to facilitate quality assurance of assessment processes, in support of the continuous improvement of assessment design, assessment marking and for the review of the subject. The University retains records of students' academic work in accordance with the University Records Management Policy and the State Records Act 1988 and uses these records in accordance with the University Privacy Policy and the Privacy and Personal Information Protection Act 1998.

Scaling

Marks awarded for any assessment task or part of any assessment task, including an examination may be subject to scaling at the end of the session. Marks will be scaled only when unpredictable circumstances occur and in order to ensure fairness of marking across groups of students. The method of scaling will depend on the type of scaling required by the circumstances. When scaling is deemed necessary, it will follow a detailed consideration by the Unit Assessment Committee and/or the Faculty Assessment Committee of the marks of the group of students concerned. Scaling will not affect any individual student's rank order within their cohort. For more information please refer to [Finalisation of Student Results Policy](#) for details.

Supplementary Assessment

Supplementary assessment may be offered to students whose performance in this subject is close to that required to pass the subject, and are otherwise identified as meriting an offer of a supplementary assessment. For information about eligibility criteria and the form and timing of supplementary assessments see the [Supplementary Assessment Procedure](#)

Review and Appeal of Academic Decisions

A student may request an explanation of a mark for an assessment task or a final grade for a subject consistent with the student's right to appropriate and useful feedback on their performance in an assessment task. A student may also seek further explanation for other academic decisions such as Academic Consideration, Supplementary Assessment or Credit for Prior Learning. If a student is not satisfied with the explanation, or have further concerns, they may have grounds for a formal review. For further information refer to [Review and Appeal of Academic Decisions Policy](#)

Assessment Quality Cycle

The UOW Assessment Quality Cycle provides a level of assurance that assessment practices across the University are appropriate, consistent and fair. Quality assurance activities are undertaken to support the continuous improvement of assessment and promote good practices in relation to assessment design, marking and review of the subject prior to subsequent delivery.

Academic Integrity

The University's Academic Integrity Policy, faculty handbook and subject guides clearly set out the University's expectation that students submit only their own original work for assessment and avoid plagiarising the work of others or cheating. Re-using any of your own work (either in part or in full) which you have submitted previously for assessment is not permitted without appropriate acknowledgement. Plagiarism can be detected and has led to students being expelled from the University.

The use by students of any website that provides access to essays or other assessment items (sometimes marketed as 'resources'), is extremely unwise. Students who provide an assessment item (or provide access to an assessment item) to others, either directly or indirectly (for example by uploading an assessment item to a website) are considered by the university to be intentionally or recklessly helping other students to cheat. Uploading an assessment task, subject outline or other course materials without express permission of the University is considered academic misconduct and students place themselves at risk of being expelled from the University.

Students should visit the following University website and become familiar with the University's policy on plagiarism [Academic Integrity Policy](#)

Referencing

The Author-Date (Harvard) referencing system should, unless otherwise specified for a particular assessment (check Details of Assessment Tasks), be utilised. A summary of the Harvard system can be accessed on the Library website at: <http://uow.libguides.com/refcite>

Section C: General Advice for Students - Policies and Procedures

Student Services and Support

There are a range of services available to students that are provided free of charge. A good place to get to know services that may be of use to you is the [Get Started @ UOW](#) or search for "Get Started @ UOW". Services available include:

Service	Link to information about the service
Aboriginal & Torres Strait Islander	https://www.uow.edu.au/about/services/woolyungah-indigenous-centre/about-us/
Careers advice	https://www.uow.edu.au/student/careers/
Counselling	https://www.uow.edu.au/student/support-services/counselling/
Student Accessibility and Inclusion (SAI)	https://www.uow.edu.au/student/support-services/sai/
Information Tech.	https://www.uow.edu.au/its/index.html?ssSourceSiteId=getstarted
Study Skills	https://www.uow.edu.au/student/support-services/academic-skills/

Student Support Coordinator (SSC)

If you have a temporary or ongoing issue or a problem that is affecting your study, including issues that are related to belonging to an equity group, then the Student Support Coordinators may be able to help. There are Student Support Coordinators available to assist students who are studying at all UOW Campuses and in all UOW Faculties. Contact details can be found on the UOW website: <https://www.uow.edu.au/student/support-services/coordinators/>

Student Advocacy Service

The Student Advocacy Service (SAS) is free, confidential and independent service for all UOW students. The SAS provides advocacy and referral for a range of academic, procedural and administrative issues. For more information visit: <https://www.uow.edu.au/student/support-services/advocacy/>

AskUOW

AskUOW is your primary administrative and information contact during your studies.

Our purpose is to ensure students have access to the information they need, at the time they need it. We can help with a wide range of enquiries, including key topics such as:

- Applying for [academic consideration](#)
- Fees and scholarships
- Official documentation and student letter requests
- Student forms such as course transfer and leave of absence applications
- Student ID card issuance and replacement
- Subject enrolment
- Transport concession cards and Opal cards
- Updating personal details

Get instant answers 24/7 online using [AskUOW](#). Log in with your UOW username and password.

For further support contact askuow@uow.edu.au or call on 1300 275 869 (1300 ASK UOW) or +61 2 4221 3927.

Library Services

Save yourself time and enhance your studies: connect with information specialists and resources anytime, anywhere.

- For Library support connect with [Live Chat](#) or [contact the Library](#).
- For self-help see [Frequently Asked Questions](#) or browse [Library guides](#) to find information, databases and skills tutorials.
- [Research consultations](#) are available to UOW Postgraduate, Honours and Deans Scholar students.

Academic Integrity Policy

Academic integrity involves upholding ethical standards in all aspects of academic work, including learning, teaching and research. It involves acting with the principles of honesty, fairness, trust and responsibility and requires respect for knowledge and its development. The Policy can be found at:

<https://policies.uow.edu.au/document/view-current.php?id=26>

Code of Practice - Research

This Code mandates the current policy and best practice relating to procedures for responsible research. The Code can be found at: <https://policies.uow.edu.au/document/view-current.php?id=11>

Honours Policy

This policy sets out the responsibilities of all parties involved in managing students undertaking Honours Programs. The Code can be found at: <https://policies.uow.edu.au/document/view-current.php?id=36>

The Code of Practice - Work Integrated Learning (Professional Experience)

The Code of Practice - Work Integrated Learning (Professional Experience) sets out what is expected from students, the University and Host Organisations in providing work integrated learning professional experience programs. It applies to professional experience programs that form the whole or part of a subject or course offered at the University. The Code assists in promoting a productive work integrated learning experience for students and in promoting relevant UOW Work Integrated Learning Design Principles.

<https://policies.uow.edu.au/document/view-current.php?id=12>

Copyright Policy

The purpose of this Policy is to outline responsibilities and procedures regarding the use of third party copyright material, with the objectives of reducing staff and UOW exposure to the risks associated with the use of third party copyright material, assisting staff to make full legal use of the materials at their disposal by clearly identifying responsibilities and promoting copyright compliance. The Policy can be found at:

<https://policies.uow.edu.au/document/view-current.php?id=135>

Course Progress Policy

The Course Progress Policy establishes the requirements, definitions and procedures to be used in determining the standards of acceptable course progress. The Policy can be found at:

<https://policies.uow.edu.au/document/view-current.php?id=30>

Examination Rules and Procedures

The UOW rules and procedures outline exam conditions, student conduct in exams, and the procedures for exam management. Further information can be found here: <https://www.uow.edu.au/student/exams/>

Ethical Objection by Students to the Use of Animal and Animal Products in Coursework Subjects

This policy provides a framework for recognition of and responses to students' ethical or religious objection to animal use in coursework subjects at the University of Wollongong. For the purpose of this policy, animal use includes killing of animals in experimental work, dissection of animals that are already dead, use of animal tissues, use of animal-derived products (such as sera). These uses are relevant to teaching and assessment. Further information about this policy can be found here: <https://policies.uow.edu.au/document/view-current.php?id=154>

Coursework Rules

The Coursework Rules (hereafter the Rules) govern the admission, enrolment, progression through, and qualification for a coursework award offered by the University. Further information can be found here: <https://policies.uow.edu.au/document/view-current.php?id=4>

Human Research Ethics

The Human Research Ethics Committee protects the welfare and rights of the participants in research activities. Further information can be found here: <https://www.uow.edu.au/research-and-innovation/researcher-support/ethics/human-ethics/>

Inclusive Language Guidelines

UOW endorses a policy of non-discriminatory language practice in all academic and administrative activities of the University. Further information is available from: <https://policies.uow.edu.au/document/view-current.php?id=239>

Intellectual Property Policy

UOW's IP Intellectual Property Policy provides guidance on the approach taken to Intellectual Property (IP), including its ownership, protection and exploitation. Further information about the management of IP is available at <https://policies.uow.edu.au/document/view-current.php?id=146>

Review and Appeal of Academic Decisions Policy

UOW aims to provide a transparent and consistent process for resolving a student concern about an academic decision that has affected their academic progress, including a mark or grade. Further information is available at: <https://policies.uow.edu.au/document/view-current.php?id=40>

Student Academic Consideration Policy

The purpose of the Student Academic Consideration Policy is to enable student requests for academic consideration for assessable components of a subject to be evaluated in a fair, reasonable, timely and consistent manner throughout the University. **For information on the Policy, eligibility and how to apply see:** <https://www.uow.edu.au/student/admin/academic-consideration/>

The Student Charter - Your Rights and Responsibilities

The Student Charter is based on principles that guide all members of the University and that promote responsible partnerships within and beyond the University community. <https://www.uow.edu.au/student/charter/>

Student Assignment of Intellectual Property (IP) Policy

This policy applies to all Students (under-graduate and post-graduate) of the University of Wollongong (UOW). It may also apply to other persons by agreement. This policy sets out the approach taken by UOW in relation to

Student assignment of intellectual property. Further information about this policy can be found here: <https://policies.uow.edu.au/document/view-current.php?id=146>

Student Conduct Rules

These Rules outline the required conduct of students of UOW, and direct staff and students to University Rules, standards, codes, policies, guidelines, procedures and other requirements which specify acceptable and unacceptable student conduct, and the management of alleged student misconduct.

<https://policies.uow.edu.au/document/view-current.php?id=6>

Teaching and Assessment: Assessment and Feedback Policy

The purpose of this Policy is to set out the University of Wollongong's approach to effective learning, teaching and assessment, including the principles and minimum standards underlying teaching and assessment practice.

The Policy can be found at: <https://policies.uow.edu.au/document/view-current.php?id=38>

Teaching and Assessment: Code of Practice - Teaching

This Code is a key document in implementing the University's Teaching and Assessment Policy and sets out the specific responsibilities of parties affected in relation to learning, teaching and assessment, as well as procedures for teaching staff. The Code can be found at: <https://policies.uow.edu.au/document/view-current.php?id=9>

Teaching and Assessment: Subject Delivery Policy

This Policy sets out specific requirements in relation to the delivery of Subjects. The policy can be found at:

<https://policies.uow.edu.au/document/view-current.php?id=39>

Workplace Health & Safety Policy

The Workplace Health and Safety (WHS) unit at UOW aims to provide structures, system and support to ensure the health, safety and welfare of all at the campus. Further information is available from:

<https://policies.uow.edu.au/document/view-current.php?id=177>