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## BIOL851: Principles of Ecology

### Subject Outline

6 credit points

### Subject Information

Autumn, 2026, Wollongong  
On Campus

**On-Campus Delivery** This subject is delivered in-person and includes on-campus or other location-based learning activities that cannot be undertaken by students studying Online/Distance. Students unable to attend campus or any other nominated physical delivery location should not enrol in this subject

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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## Teaching Staff

<b>Teaching Role</b>	Coordinator
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<b>Consultation Times</b>	Please email for appointment

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<b>Consultation Times</b>	Please email for appointment

### Teaching Staff Additional Information

In the first instance, all enquiries to teaching staff should be emailed to [biol251-admin@uow.edu.au](mailto:biol251-admin@uow.edu.au)

Demonstrators will be present at on-campus practicals and field trips and will be on the Moodle site when confirmed.

## 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](#).

## Copyright

### Commonwealth of Australia

Copyright Regulations 1969

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The original material prepared for this guide is covered by copyright. Apart from fair dealing for the purposes of private study, research, criticism or review, as permitted under the Copyright Act, no part may be reproduced by any process without written permission.

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. Discuss the fundamental principles of ecology;
2. Gain skills in several techniques for sampling populations and communities;
3. Independently design, and analyse, simple ecological sampling programs and experiments;
4. Analyse ecological research by:
  - i. organising and manipulating data; and
  - ii. using descriptive and analytical statistics;
5. Communicate science effectively by:
  - i. critically evaluating published scientific literature;
  - ii. preparing a scientific report as a journal article

### Subject Description

Factors and processes influencing the distribution, abundance and diversity of organisms. Population ecology: growth and regulation. Species interactions. Natural and anthropogenic disturbance. Community structure and dynamics in space and time. Sampling methods and techniques in ecology. Design and statistical analysis of sampling programs and experiments. Communicating science.

### 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**

This subject aligns with the United Nations Sustainable Development Goals (SDGs) enabling our students to be well informed global citizens that can continue to contribute to realising sustainable development through their studies and careers by being proactive, responsible and educated in relation to how realising the Global Goals will better the world.

### **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)**

#### **Ecology: The Economy of Nature (International Edition)**

Book

February 27, 2025, Ecology: The Economy of Nature (International Edition), 10th , Macmillan **(Lecture material)**

If there is a textbook available for purchase, you can find the details at University Bookshop <https://unishop.uow.edu.au/> or [ebook\\_here](#)

*Practical field ecology: a project guide, 1<sup>st</sup> OR 2<sup>nd</sup> ed., By Wheater, C. P., Bell, J. R., & Cook, P. A. (2020 or 2011).* Hoboken, N.J: Wiley-Blackwell. At [UOW LIBRARY ONLINE](#) **(Practical and group project resource)**

### **Recommended Readings and Other Resources**

#### Other Ecology Textbooks (on Short Loan in the library)

- Stiling PD (2002) Ecology: Theories and Applications (4<sup>th</sup> ed.)
- Begon M, Townsend CR, Harper JL (2006) Ecology: From Individuals to Ecosystems (4<sup>th</sup> ed. or newer)
- Ecology: The Experimental Analysis of Distribution and Abundance, 6th Edition by Charles Krebs. 2014

### General Books to Help with Writing, Practical Skills, Statistics, etc.

The book on writing by Pechenik, practical skills by Jones et al., and statistics by Quinn and Keough are also recommended and will be useful in many subjects. These are on Short Loan in the library. Some are also available for purchase in the bookstore.

- Pechenik JA (various years) *A Short Guide to Writing about Biology* (various eds.).
- Barnard C, Gilbert F, McGregor P. *Asking Questions in Biology* (4<sup>th</sup> ed.).
- Jones A, Reed R, Weyers J (various years) *Practical Skills in Biology* (various eds.).
- Quinn GP, Keough MJ (2002) *Experimental Design and Data Analysis for Biologists*.
- Underwood AJ (1997) *Experiment in Ecology: Their Logical Design and Interpretation using Analysis of Variance*.
- Zar J (1999) *Biostatistical Analysis* (4th ed.).

This is not an exhaustive list of references. Students should also use the library catalogue and databases to locate additional resources.

## 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 \*

#### Full-week lecture timetable

(using the Monday “1st day of week” dates and lecture topics) with a suggested reading alignment to Relyea (2025) *Ecology: The Economy of Nature* (10e).

Week	Monday date	Lecture topic	Suggested Reading (Relyea 10e)
Week 1	2 Mar 2026	Introduction to the subject admin and expectations	Ch. 1 (An Introduction to Ecology)
Week 2	9 Mar 2026	Behavioural Ecology and evolution	Ch. 5 (Evolutionary Ecology) + Ch. 11 (Social Behaviors)
Week 3	16 Mar 2026	Limitations to Distribution and Abundance	Ch. 2 (Global Climates) + Ch. 4 (Terrestrial and Aquatic Biomes) + Ch. 12 (Population Distributions)
Week 4	23 Mar 2026	Populations, Demographics and Life Histories	Ch. 9 (Life Histories) + Ch. 13 (Population Growth and Regulation) + Ch. 14 (Population Dynamics over Time and Space)
Week 5	30 Mar 2026	Competition	Ch. 17 (Competition)
Week 6	6 Apr 2026	Predation and herbivory	Ch. 15 (Predation and Herbivory)
Week 7	13 Apr 2026	Mutualism into Parasitism	Ch. 18 (Mutualism) + Ch. 16 (Parasitism and Infectious Diseases)
Break	20 Apr 2026	Mid-session Break	—

Week	Monday date	Lecture topic	Suggested Reading (Relyea 10e)
Week 8	27 Apr 2026	Parasitism into disease	Ch. 16 (Parasitism and Infectious Diseases)
Week 9	4 May 2026	Community structure	Ch. 19 (Community Structure: Biodiversity and Food Webs)
Week 10	11 May 2026	Equilibrium communities & Non-equilibrium communities	Ch. 20 (Community Succession) + selected sections of Ch. 19
Week 11	18 May 2026	Community stability Indirect effects	Selected sections of Ch. 19 (food webs/indirect effects) + Ch. 20 (succession & stability concepts)
Week 12	25 May 2026	Primary productivity & Secondary productivity	Ch. 21 (Energy Flow in Ecosystems)
Week 13	1 Jun 2026	Nutrient cycling & Decomposition	Ch. 22 (Nutrient Cycling in Ecosystems)

BIOL851 statistics practicals scaffold students from core concepts (models predict responses; explanatory variables represent hypotheses; interpreting assumptions and output) through correlation/regression, single-factor comparisons, and interactions/covariates, before introducing **generalised linear models (GLMs)** to handle non-normal response data common in ecology.

Students then apply these skills in an authentic, research-embedded **group project**, where they develop their own ecological questions from field observations, design and conduct sampling/experiments (e.g., transects/quadrats), analyse their own data in R using appropriate models (including GLMs where needed), and communicate findings in a scientific report with clear interpretation and justification.

BIOL851 statistics practicals begin with a **Week 1 online (at-home) preparatory assignment**, followed by **compulsory in-person practicals in Weeks 2–7 and the first week after mid-session break**. Across these sessions, students build from core model concepts (responses, hypotheses as explanatory variables, and interpreting output/assumptions) through regression, categorical predictors, interactions/covariates, and **GLMs**, then apply these tools to design, conduct, and analyse their own ecological research in a scaffolded **group project**.

### BIOL851 Practical/Lab timetable (adjusted for Easter Monday)

#### Important notes

- Tutorials are **pre-recorded** and will be posted **before** the relevant practicals (where applicable). See **Moodle** for links.
- **Check Moodle (schedule + announcements)** each week for the most up-to-date practical details and any changes.
- **Every practical includes an in-practical assessment** that must be completed on the day and **marked by Demonstrators/lecturers**.
- Some practical topics may **reshuffle** depending on student progress/evaluation.
- The **outdoor practical is weather-dependent** (noted below), so that session may shift.
- **Mon 06 Apr 2026 (Easter Monday)** is a public holiday, so the remaining practical topics move forward by one week.

Week	Monday date	Practical / tutorial session
1	02 Mar 2026	Online Tutorial
2	09 Mar 2026	Statistical models and definitions: (1) models predict responses (2) explanatory variables are hypotheses (3) interpretation of model and stats output + <b>“What’s the difference?” &amp; “Is it different?”—distributions, means, effect sizes, variance, sample size, significance (introduced here and reinforced across later practicals)</b>

Week	Monday date	Practical / tutorial session
3	16 Mar 2026	Practical sampling abundance and distribution: (1) sampling on a transect (2) estimating veg height using quadrats ( <b>weather permitting—may shift</b> )
4	23 Mar 2026	Types of data and their typical distributions ( <b>covered and reinforced through subsequent practicals as needed</b> )
5	30 Mar 2026	Stats: continuous response & explanatory variables; correlation/regression; model assumptions
6	06 Apr 2026	<b>No on-campus practical (Easter Monday public holiday) —</b>
7	13 Apr 2026	Stats: discrete explanatory variables + continuous response; single-factor (2+ levels); model assumptions & experimental design
Break	20 Apr 2026	—
8	27 Apr 2026	Stats: interactions, covariates, and interpretation
9	04 May 2026	Peer-to-peer review of project methods (planned statistical models + justifications)
10	11 May 2026	<b>No prac</b> (finish group project)
11	18 May 2026	No Prac/Tutorial
12	25 May 2026	No Prac/Tutorial
13	01 Jun 2026	No Prac/Tutorial

## 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/>

## 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.

The School is committed to continual improvement in teaching and learning. In assessing teaching and learning practices in a subject, the School takes into consideration student feedback from many sources. These sources include direct student feedback to tutors and lecturers, feedback through Student Services and Science, Medicine and Health Central, and responses to the Subject and Course Evaluation Surveys. These important student responses, along with University policies and Faculty practices inform ongoing changes to subjects and courses. This information is also used to inform systemic comprehensive reviews of subjects and courses.

We have recently improved the practical components in this subject to provide greater practice at the scientific method and analysis.

**Ecology is a rigorously quantitative science, and students often struggle with the statistics in this course.** Our field has moved away from proprietary GUI-based statistical packages requiring the university to acquire expensive licences, which students can't access when they leave Uni, to open-source statistical coding software R within RStudio. This shift to RStudio from proprietary software in our field requires us **to incorporate programming skills using R and RStudio into practicals, which are also used in Stats Department subjects.** Teaching coding and core ecological statistics require more time and an integrated layered teaching approach (we began trialling using RStudio in 2024 and have many plans for improving delivery on the tactical and strategic level in 2025).

We also must maintain our emphasis on understanding the importance of best scientific practices linking the generation of ecological questions, peer-reviewed literature searches, experimental design and analysis, which must be done before collecting data in the field. Thus, **our practical periods will help our students build a skill set to ask and answer scientific questions with a comprehensive view of the scientific process by assessing their demonstrated ability individually with a series of marked tasks throughout the session.** We think this approach will build student confidence and create a foundation for the group project and beyond this subject.

## 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	Participation	10%
Assessment 2	Lab/Prac/Simulation	35%
Assessment 3	Project	35%
Assessment 4	Exam	20%
	<b>TOTAL MARKS</b>	100%

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

### Assessment 1: Participation - Participation

<b>Marking Criteria</b>	The marking criteria for this assessment task will be on Moodle marked as fractions of completeness (number of parts answered/number of parts)
<b>Length</b>	6-10 Moodle activities at 0.5-2% each, roughly every two weeks throughout the session.
<b>Weighting</b>	10%
<b>Assessment Due</b>	To Be Announced Final submission time: 11:30pm
<b>Type of Collaboration</b>	Individual assessment
<b>Style and format</b>	Moodle-based quizzes, discussions/reflections, and activities based on lecture material that are marked for participation
<b>Generative AI use</b>	No
<b>Assessment submission</b>	Online via Moodle
<b>Assessment return</b>	Within 15 working days of the submission date (via Moodle)
<b>Detailed information</b>	Moodle-based quizzes, discussions/reflections, and short activities that are marked for participation

### Assessment 2: Lab/Prac/Simulation - Assignments

<b>Marking Criteria</b>	The marking criteria for this assessment task will be on Moodle
<b>Length</b>	Several short-medium length assessments most are completed within the lab/practical period; there will be one Individual Stats Assessment to be completed outside the practical period, and will be announced in prac and via Moodle
<b>Weighting</b>	35%
<b>Assessment Due</b>	To Be Announced Final submission time: 11:30pm
<b>Type of Collaboration</b>	Individual assessment
<b>Style and format</b>	Written assignment
<b>Generative AI use</b>	<b>AI use statement (BIOL251/851 stats work and group report + R coding)</b> You may use generative AI tools (e.g., ChatGPT, Copilot, Gemini) <b>only</b> to help with <b>R coding tasks</b> , such as: explaining R error messages, suggesting code structure, writing or debugging scripts, or helping you understand how to implement a specific analysis you have already chosen.

	<p>You <b>may not</b> use AI for any part of the <b>interpretation</b> of your results or the <b>writing</b> of your group report. This includes (but is not limited to) asking AI to: explain model output, choose statistical tests/models, interpret figures/tables, write or rewrite sentences/paragraphs, draft an abstract/introduction/discussion, generate a results narrative, or suggest “what this means biologically.” All interpretation and written content must be your group’s own work.</p> <p>Permitted editing support: you may use <b>Microsoft Word spelling/grammar tools</b> and <b>Grammarly</b> (or equivalent) <b>only for proofreading and language clarity</b>, not for generating content or rewriting substantial sections.</p> <p>If you use AI for R coding support, you must <b>acknowledge this use</b> (tool name + brief description of what it helped with, e.g., “debugging code for a GLM” or “helping format a ggplot”), and you must ensure you understand, can explain, and can justify any code you submit.</p> <p>Use of AI beyond these limits may be treated as academic misconduct under university policy.</p>
<b>Assessment submission</b>	Online via Moodle
<b>Assessment return</b>	Within 15 working days of the submission date (via Moodle)
<b>Detailed information</b>	Several sets of statistical problems and short answer questions related to in prac work to build and demonstrate competence in R programming language and how to analyse data and interpret statistical results in words and numbers.

### Assessment 3: Project - Project Report

<b>Marking Criteria</b>	The marking criteria for this assessment task will be on Moodle
<b>Length</b>	Approximately 2000-3500(max!) words, but details will be outlined online guidance documents—there are several <b>1/0 marked individual checkpoint assessments</b> to keep students on track that account for 2-5 project % of the mark each.
<b>Weighting</b>	35%
<b>Assessment Due</b>	05 Jun 2026 (Friday in Session Week 13)
<b>Type of Collaboration</b>	Individual assessment and group work
<b>Style and format</b>	<b>Written scientific report based on data and analysis of data produced as a group and the report is written as a group. Final uploaded version must be a PDF.</b>
<b>Generative AI use</b>	<p><b>I use statement (BIOL251/851 stats work and group report + R coding)</b></p> <p>You may use generative AI tools (e.g., ChatGPT, Copilot, Gemini) <b>only</b> to help with <b>R coding tasks</b>, such as: explaining R error messages, suggesting code structure, writing or debugging scripts, or helping you understand how to implement a specific analysis you have already chosen.</p> <p>You <b>may not</b> use AI for any part of the <b>interpretation</b> of your results or the <b>writing</b> of your group report. This includes (but is not limited to) asking AI to: explain model output, choose statistical tests/models, interpret figures/tables, write or rewrite sentences/paragraphs, draft an abstract/introduction/discussion, generate a results narrative, or suggest “what this means biologically.” All interpretation and written content must be your group’s own work.</p> <p>Permitted editing support: you may use <b>Microsoft Word spelling/grammar tools</b> and <b>Grammarly</b> (or equivalent) <b>only for proofreading and language clarity</b>, not for generating content or rewriting substantial sections.</p> <p>If you use AI for R coding support, you must <b>acknowledge this use</b> (tool name + brief description of what it helped with, e.g., “debugging code for a GLM” or “helping format a ggplot”), and you must ensure you understand, can explain, and can justify any code you submit.</p>

	Use of AI beyond these limits may be treated as academic misconduct under university policy.
<b>Assessment submission</b>	<p><b>Must be a PDF</b> Upload through Turnitin on Moodle site This assessment has been set up to be checked by Turnitin, a tool which helps you check whether you have referenced correctly. You can submit your assessment task to Turnitin prior to the due date and Turnitin will give you an originality report. You may then make any changes that may be required and resubmit your final version by the due date.</p> <p>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.</p>
<b>Assessment return</b>	Within 15 working days of the submission date (via Moodle)
<b>Detailed information</b>	Major Report on project written as Scientific Paper

#### Assessment 4: Exam - Final Examination

<b>Marking Criteria</b>	The marking criteria for this assessment task will be discussed in lecture
<b>Length</b>	3 hours
<b>Weighting</b>	20%
<b>Assessment Due</b>	The final exam will be held during the UOW exam period, and students should ensure they are available during this period. Students will receive a SOLSmail advising when full details of the delivery format, and date of the final exam are available in the SOLS Exam Timetable.
<b>Type of Collaboration</b>	Individual assessment
<b>Style and format</b>	Final exam, short answer. Interpreting graphs and word problems.
<b>Generative AI use</b>	Invigilated paper exam. No electronic devices allowed.
<b>Detailed information</b>	Final exam covers ALL material: Lectures, Tutorials AND Practicals. There is no separate practical exam, so this material is covered in the main exam.

#### Additional Assessment Information

For details of each assessment task refer to the assessment folder on moodle

#### Minimum Requirements to Pass this Subject

Students should note that UOW equates one (1) credit point to around 1.5–2 hours of study per week, including lectures and tutorials/workshops/practicals, self-directed study, and work on assessment tasks. For example, in this subject, a 6-credit point subject typically requires a commitment of about 9–12 hours of study per week, including scheduled learning activities.

Lectures for this subject are interactive and include discussion, worked examples, and in-class guidance that may not be fully captured in recordings. Students are therefore strongly encouraged to attend and participate regularly.

**Why attendance and preparation matter.** The laboratory/practical-based statistical assessments (including simulations and in-prac statistical tasks) contribute **35% of your total mark**. The **group research project contributes a further 35%**, and group project planning, analysis support, and other project-related activities occur throughout the practical program. Missing practicals, failing to submit associated tasks, or performing poorly on these activities will have a **strong negative effect** on your final mark and therefore your final grade.

**Tutorials (online, pre-practical preparation).** Tutorials are pre-recorded and available on Moodle. They should be viewed **before** the relevant practical, as they provide the context and background needed to complete the practical tasks efficiently and successfully. Tutorials may include associated checkpoint questions/exercises, which must be completed during the scheduled week as part of the evidence of practical engagement.

**Practicals (expected weekly participation).** The practical program is central to BIOL851 and is designed as an in-person learning experience. Students are expected to attend practicals and participate actively each week, completing the scheduled practical learning tasks (including in-prac activities/quizzes and associated tutorial checkpoint questions). You are also expected to arrive prepared to work with, and meet with, your group during the practical session each week, as group project-related activities take place in every practical.

**If you miss a practical (Academic Consideration + catch-up rules).** If you miss a practical, you **must obtain Academic Consideration (AC)** in line with UOW processes. Regardless of the reason for absence, you are still required to complete the missed practical learning tasks via the provided catch-up pathway and submit them **within seven (7) days** of the scheduled practical, **unless your approved AC explicitly authorises a different arrangement or timeframe**. If the catch-up tasks are **not submitted within 7 days** (and your approved AC does not authorise an alternative timeframe), the practical engagement/attendance mark for that practical will be recorded as **0**. Students must also ensure they catch up on any group work and data required for subsequent activities or assessments.

**Assessment expectations (must attempt).** Students are expected to **attempt all assessment items**. This applies even if you miss a practical and/or do not obtain Academic Consideration. Missing an on-campus session does not remove your responsibility to attempt and submit the associated assessment components by the relevant deadlines (or approved alternative arrangements).

**Communication.** All correspondence regarding missed practicals, catch-up arrangements, or Academic Consideration must be directed to the Subject Coordinator via [biol251-admin@uow.edu.au](mailto:biol251-admin@uow.edu.au).

**Passing requirement.** To pass BIOL251/851, students must achieve an overall subject mark of **50% or more**.

### **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			
	Participation	Assignments	Project Report	Final Examination
	(10%)	(35%)	(35%)	(20%)
Discuss the fundamental principles of ecology	✓			✓
Gain skills in several techniques for sampling populations and communities;			✓	
Independently design, and analyse, simple ecological sampling programs and experiments;		✓		✓
Analyse ecological research by: (i) organising and manipulating data; and (ii) using descriptive and analytical statistics;		✓		
Communicate science effectively by: (i) critically evaluating published scientific literature; (ii) preparing a scientific report as a journal article			✓	✓

### 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 unpredicted 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	<a href="https://www.uow.edu.au/about/services/woolyungah-indigenous-centre/about-us/">https://www.uow.edu.au/about/services/woolyungah-indigenous-centre/about-us/</a>
Careers advice	<a href="https://www.uow.edu.au/student/careers/">https://www.uow.edu.au/student/careers/</a>
Counselling	<a href="https://www.uow.edu.au/student/support-services/counselling/">https://www.uow.edu.au/student/support-services/counselling/</a>
Student Accessibility and Inclusion (SAI)	<a href="https://www.uow.edu.au/student/support-services/sai/">https://www.uow.edu.au/student/support-services/sai/</a>
Information Tech.	<a href="https://www.uow.edu.au/its/index.html?ssSourceSiteId=getstarted">https://www.uow.edu.au/its/index.html?ssSourceSiteId=getstarted</a>
Study Skills	<a href="https://www.uow.edu.au/student/support-services/academic-skills/">https://www.uow.edu.au/student/support-services/academic-skills/</a>

## 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](mailto: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>