School of Biological Sciences

BIOL251: Principles of Ecology

Subject Outline
Autumn, 2016
On-Campus
Wollongong

Subject Information
Credit Points: 6
Pre-requisite(s): BIOL103 & BIOL104 & BIOL105
Co-requisite(s): Nil
Restrictions: Nil
Contact Hours: 2 hr lectures & 4 hrs combined lectures and practicals

Subject Contacts
Subject Coordinator/Lecturer

<table>
<thead>
<tr>
<th>Name:</th>
<th>A/PR Todd Minchinton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Building 35, Room G09</td>
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<tr>
<td>Telephone:</td>
<td>61 2 4221 5188</td>
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<td>Email:</td>
<td><a href="mailto:todd_minchinton@uow.edu.au">todd_minchinton@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times:</td>
<td>Mondays 1230–130, Tuesdays 530-630, or Email for appointment</td>
</tr>
</tbody>
</table>

Lecturer

<table>
<thead>
<tr>
<th>Name:</th>
<th>Prof Kris French</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Building 35, Room G15</td>
</tr>
<tr>
<td>Telephone:</td>
<td>61 2 4221 3655</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:kris_french@uow.edu.au">kris_french@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times:</td>
<td>Tuesdays 10–12, Wednesdays 10–12, or Email for Appointment</td>
</tr>
</tbody>
</table>

Lecturer

<table>
<thead>
<tr>
<th>Name:</th>
<th>Dr Ben Gooden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td>Building 35, Room 107</td>
</tr>
<tr>
<td>Telephone:</td>
<td>61 2 4221 4310</td>
</tr>
<tr>
<td>Email:</td>
<td><a href="mailto:ben_gooden@uow.edu.au">ben_gooden@uow.edu.au</a></td>
</tr>
<tr>
<td>Consultation mode and times:</td>
<td>Email for appointment</td>
</tr>
</tbody>
</table>

Student Support and Advice
For general enquiries please contact the Student Centre:

Location: 41.152
Telephone: 61 2 4221 3492
Email: smah-students@uow.edu.au
Student Consultation and Communication

University staff receive many emails each day. In order to enable them to respond to your emails appropriately and in a timely fashion, students are asked to observe basic requirements of professional communication.

*Please ensure that you include your full name and student number and identify your practical class or tutorial group in your email so that staff know who they are communicating with and can follow-up personally where appropriate.*

**Consider what the communication is about**

- Is your question addressed elsewhere (e.g. in the subject outline or, on the eLearning site)?
- Is it something that is better discussed in person or by telephone? This may be the case if your query requires a lengthy response or a dialogue in order to address. If so, see consultation times above and/or schedule an appointment.
- Are you addressing your request to the most appropriate person?

**Specific email subject title to enable easy identification of issue**

- Identify the subject code of the subject you are enquiring about (as staff may be involved in more than one subject) put this in the email subject heading. Add a brief, specific query reference after the subject code where appropriate.

**Professional courtesy**

- Address the staff member appropriately by name (and formal title if you do not yet know them).
- Use full words (avoid ‘text-speak’ abbreviations), correct grammar and correct spelling.
- Be respectful and courteous.
- Allow 3 – 4 working days for a response before following up. If the matter is legitimately urgent, you may wish to try telephoning the staff member (and leaving a voicemail message if necessary) or inquiring at the School Office.
# Table of Contents

Section A: General Information ............................................................................................................... 4  
Subject Learning Outcomes .................................................................................................................. 4  
Subject Description .............................................................................................................................. 4  
eLearning Space .................................................................................................................................. 4  
Lecture, Tutorial, Laboratory Times ...................................................................................................... 4  
Readings, References and Materials ..................................................................................................... 4  
  Textbooks........................................................................................................................................ 4  
  Prescribed Readings (includes eReadings).......................................................................................... 5  
  Materials.......................................................................................................................................... 5  
  Recommended Readings .................................................................................................................... 5  
Recent Changes to this Subject ............................................................................................................ 6  
Ethical Objection to the Use of Animal and Animal Products ............................................................... 6  
Laboratory Safety Guidelines ............................................................................................................... 6  
Timetable of Topics* ........................................................................................................................... 7  
Section B: Assessment ........................................................................................................................... 8  
  Assessment Summary ........................................................................................................................ 8  
  Details of Assessment Tasks .............................................................................................................. 8  
    Minimum Student Attendance and Participation ............................................................................ 9  
  Scaling............................................................................................................................................. 9  
  Late Submission................................................................................................................................. 9  
    Late Submission Penalty.............................................................................................................. 10  
  Supplementary Assessments............................................................................................................ 10  
  System of Referencing Used for Written Work .............................................................................. 10  
  Use of Internet Sources ................................................................................................................... 10  
  Plagiarism....................................................................................................................................... 10  
  Submission of Assessments ............................................................................................................ 11  
  Assessment Return.......................................................................................................................... 11  
Section C: General Advice ...................................................................................................................... 12  
  University Policies .......................................................................................................................... 12  
  Student Support Services and Facilities ......................................................................................... 13  
  Student Etiquette............................................................................................................................ 13  
  Version Control Table ..................................................................................................................... 13
Section A: General Information

Subject Learning Outcomes
On completion of this subject, students should be able to:

1. Understanding of the fundamental principles of ecology;
2. Knowledge of, and ability to use, several techniques for sampling populations and communities;
3. Ability to independently design, implement, and analyse simple ecological sampling programs and experiments;
4. Ability to use computers in ecological research by:
   (i) organising and manipulating data; and
   (ii) using descriptive and analytical statistics;
5. Ability to communicate science effectively by:
   (i) critically evaluating published scientific literature;
   (ii) preparing a scientific report as a journal article; and
   (iii) presenting a research seminar.

Subject Description

eLearning Space
This subject has materials and activities available via eLearning. To access eLearning you must have a UOW user account name and password, and be enrolled in the subject. eLearning is accessed via SOLS (student online services). Log on to SOLS and then click on the eLearning link in the menu column. For information regarding the eLearning spaces please use the following link:
http://uowblogs.com/moodlelab/files/2013/05/Moodle_StudentGuide-1petpo7.pdf

Lecture, Tutorial, Laboratory Times
All timetable information is subject to variation. Check latest timetabling information on the 'Current Student' webpage on UOW website or log into SOLS to view your personal timetable prior to attending classes.

Timetable information can be accessed from

Key University Dates can be accessed from

Readings, References and Materials
Textbooks
The following text(s) will need to be purchased by students enrolled in this class.

Nil
Prescribed Readings (includes eReadings)
The following texts are prescribed for this subject, but students are not expected to purchase these. They are available to students through the library on the subject’s eLearning site.

The ecology sections will rely heavily on the ecology text by Krebs (2014) and it is on Short Loan in the library.

Main Textbook (also useful in other 2nd and 3rd year subjects)

OR


Readings (electronic readings in library)
eReadings from the primary literature (i.e. articles from journals) will be assignment periodically throughout the semester and these can be downloaded by typing in the subject code on the library website. You will be notified during lecture when these are available.

Journal Articles (i.e. the primary literature)
You will use the journal Austral Ecology as a template for your Project Report (Scientific Paper). You will be reading and citing journal articles for these assignments. So please explore this and other journals (see the library website). For a start:

Austral Ecology (formerly Australian Journal of Ecology); Ecology; Journal of Ecology; Ecology Letters; Oikos; Oecologia; Conservation Biology; Ecological Applications; Journal of Applied Ecology; Animal Behaviour; Evolution; Trends in Ecology and Evolution; Nature; Science; Global Change Biology; BioScience

Materials
Nil

Recommended Readings
The following references complement the prescribed readings and textbooks:

Other Ecology Textbooks (on Short Loan in the library)

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.).
Jones A, Reed R, Weyers J (various years) Practical Skills in Biology (various eds.).


*Note that there are also many general texts on ecology, writing, and statistics in the library.*

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

**Recent Changes to this Subject**
Nil

**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 (a CD-ROM is available) or attend the practical and "observe". The material involved is examinable and the prac must be written up and completed in your workbook. For further information, refer to [http://www.uow.edu.au/about/policy/UOW058708.html](http://www.uow.edu.au/about/policy/UOW058708.html)

**Laboratory Safety Guidelines**
The rules below are general rules that are required in laboratories.

- Before commencing your project you are to ensure that you understand specific procedures for the laboratory in which you work.
- You will need to fill out a risk assessment form before commencing any experiments (confer with your supervisor).
- Never use any equipment or attempt any experiment without checking the safety implications with your supervisor or experienced delegated laboratory worker.
- Undergraduate students are not permitted to work after hours unless there is appropriate approval and supervision.

**Practical and Fieldwork Safety**

**Occupational Health and Safety (OHS)**
Everything you do, including at University, involves some element of risk. In this subject, risk assessments will have to be completed by each student for the laboratory and fieldwork components of the subject. Please read the Occupational Health and Safety Guidelines, as well as other pertinent information on the OHS website, before your first lecture and laboratory ([http://staff.uow.edu.au/ohs/](http://staff.uow.edu.au/ohs/))

**Practical Conduct and Safety**
1. Attend practical class on time in order to receive important pre-practical instructions. Please read through the practical notes before attending class.
2. Laboratory coats and covered footwear (no thongs or open-toed sandals) must be worn in the laboratory at all times, unless otherwise instructed. For outdoor practicals, sensible footwear and clothing must be worn. Students should take the recommended measures to protect against sunburn, sunstroke, bites and stings. Long hair must always be tied back. Safety glasses must be worn when appropriate.
3. Smoking, eating and drinking are **NOT** permitted in the laboratory. Bottled water and other bottled drinks are not permitted in the laboratory.
4. Commonsense is expected at all times. There should be no horseplay or practical jokes in the laboratory or field.

5. Risk assessments for each practical will be available in the laboratory. Material Safety Data Sheets (MSDS) detailing the hazards and safety procedures associated with any hazardous substances will also be provided. You MUST read the risk assessment and any data sheets before each practical.

6. In the laboratory, keep your workspace as tidy as possible throughout the practical and completely clean at the completion of the practical. Follow instructions in the laboratory for disposal of all waste, including contaminated waste and broken glass.

7. All instructions for the handling of organisms and equipment must be carefully adhered to. It is YOUR responsibility to follow these instructions carefully.

8. Familiarize yourself with the evacuation point in case of evacuation.

9. If an accident occurs, alert your demonstrator and/or the practical supervisor. An accident/injury/incident form must be completed on SafetyNet as soon as possible after the incident. A staff member will do this, but will need some details from you.

Fieldwork Safety and Guidelines
As in the laboratory and in lecture, there are safety considerations when doing work in the field. The Faculty of Science has put out a document entitled “Fieldwork Safety Guidelines and Procedures”, which you should read this document before undertaking any fieldwork (http://www.uow.edu.au/content/groups/public/@web/@sci/documents/doc/uow001810.pdf).

Timetable of Topics*
A Timetable of Topics will be available from the eLearning site in week 1 of session.
Section B: Assessment

Assessment Summary

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Form of Assessment</th>
<th>Due Date</th>
<th>Return/Feedback Due date</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment 1</td>
<td>Mid-term Exam</td>
<td>Dates to be confirmed</td>
<td>Within 21 days of Due date</td>
<td>12.5%</td>
</tr>
<tr>
<td>Assessment 2</td>
<td>Statistics Assignment</td>
<td></td>
<td></td>
<td>12.5%</td>
</tr>
<tr>
<td>Assessment 3</td>
<td>Project Seminar</td>
<td></td>
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<td>5%</td>
</tr>
<tr>
<td>Assessment 4</td>
<td>Project Report</td>
<td></td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td>Assessment 5</td>
<td>Final Examination</td>
<td>During exam period</td>
<td>Release of results</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Total Marks</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>100%</strong></td>
</tr>
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Details of Assessment Tasks

Assessment tasks will be marked using explicit criteria that will be provided to students prior to submission.

Assessment 1
- **Due date**: TBC
- **Weighting**: 12.5%
- **Submission**: Exam papers and answers must be submitted at the conclusion of the exam.
- **Type of Collaboration**: Individual Assessment
- **Length**: 45 minutes
- **Details**: Short answer questions
- **Style and format**: Mid-session exam
- **Subject Learning Outcomes**: 1, 2

Assessment 2
- **Due date**: TBC
- **Weighting**: 12.5%
- **Submission**: Submit an electronic copy via upload to eLearning
- **Type of Collaboration**: Individual Assessment
- **Length**: N/A
- **Details**: Marking criteria for each assignment will be provided and available on eLearning.
- **Style and format**: Set of problems and short answer questions
- **Subject Learning Outcomes**: 1, 2, 3, 4

Assessment 3
- **Due date**: TBC
- **Weighting**: 5%
- **Submission**: N/A
- **Type of Collaboration**: Group Project
- **Length**: 15 minutes
- **Details**: Each student participates in the group presentation and expectations will be outlined in lecture
- **Style and format**: Group presentation
- **Subject Learning Outcomes**: 1, 2, 5
Assessment 4

<table>
<thead>
<tr>
<th>Assessment 4</th>
<th>Project Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due date</td>
<td>TBC</td>
</tr>
<tr>
<td>Weighting</td>
<td>20%</td>
</tr>
<tr>
<td>Submission</td>
<td>Submit an electronic copy via upload to eLearning AND Submit a hardcopy of your assessment to the technical officer in class.</td>
</tr>
<tr>
<td>Type of Collaboration</td>
<td>Individual Assessment</td>
</tr>
<tr>
<td>Length</td>
<td>Approximately 3000 words but details will be outlined in lecture</td>
</tr>
<tr>
<td>Details</td>
<td>Project Report (as a scientific paper). Marking criteria for each assignment will be provided and available on eLearning.</td>
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<tr>
<td>Style and format</td>
<td>Report</td>
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<tr>
<td>Subject Learning Outcomes</td>
<td>1-5</td>
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Assessment 5

<table>
<thead>
<tr>
<th>Assessment 5</th>
<th>Final Examination</th>
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</thead>
<tbody>
<tr>
<td>Due date</td>
<td>During exam period</td>
</tr>
<tr>
<td>Weighting</td>
<td>50%</td>
</tr>
<tr>
<td>Submission</td>
<td>Exam papers and answers must be submitted at the conclusion of the exam.</td>
</tr>
<tr>
<td>Type of Collaboration</td>
<td>Individual Assessment</td>
</tr>
<tr>
<td>Length</td>
<td>180 minutes</td>
</tr>
<tr>
<td>Details</td>
<td>Final exam covers ALL material: Lectures, Tutorials AND Practicals. There is no separate practical exam so this material is covered in the main exam.</td>
</tr>
<tr>
<td>Style and format</td>
<td>Final exam</td>
</tr>
<tr>
<td>Subject Learning Outcomes</td>
<td>1, 2</td>
</tr>
</tbody>
</table>

Minimum Requirements for a Pass in this Subject

To receive a clear pass in this subject a total mark of 50% or more must be achieved. In addition, failure to meet any of the minimum performance requirements is grounds for awarding a Technical Fail (TF) in the subject, even where total marks accumulated are greater than 50%.

The minimum performance requirements for this subject are:

- Obtain a mark of at least 45% in the final examination

Minimum Student Attendance and Participation

It is expected that students will allocate 12 hours per week to this subject, including any required class attendance, completion of prescribed readings and assessment tasks.

Student attendance at practicals & seminars is compulsory and students must attend at least 100% of classes. Absences will require the submission of an application for Academic Consideration via SOLS and the presentation of suitable documentation, for example a Medical Certificate, 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](http://www.uow.edu.au/student/central/academicconsideration/index.html)

Scaling

Scaling will not occur in this subject.

Late Submission

Late submission of an assessment task without an approved extension of the deadline is not acceptable. If you are unable to submit an assessment due to extenuating circumstances (e.g. medical grounds or compassionate grounds), you can make an application of academic consideration. Not all circumstances qualify for academic consideration. For further details about applying for academic consideration visit the Student Central webpage: [http://www.uow.edu.au/student/central/academicconsideration/index.html](http://www.uow.edu.au/student/central/academicconsideration/index.html)
Late Submission Penalty
Late submission of an assessment task without an approved extension of the deadline is not acceptable. Marks will be deducted for late submission at the rate of 10% of the total possible marks for that particular assessment task per day. This means that if a piece of work is marked out of 100, then the late penalty will be 10 marks per day (10% of 100 possible marks per day). The formula for calculating the late penalty is the total possible marks x 0.10 x number of days late. For the purposes of this policy a weekend (Saturday and Sunday) will be regarded as two days.

No marks will be awarded for work submitted after the assessment has been returned to the students.

Supplementary Assessments
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. The precise form of supplementary assessment will be determined at the time the offer of a supplementary assessment is made.

Students can log on to SOLS and click on the link titled “Supplementary Assessment” to view any applicable offers. Additional information on supplementary assessments is available at: http://www.uow.edu.au/student/exams/suppassess/index.html

System of Referencing Used for Written Work
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://public01.library.uow.edu.au/refcite/style-guides/html/

Use of Internet Sources
Students are able to use the Internet to access the most current information on relevant topics and information. Internet sources should only be used after careful critical analysis of the currency of the information, the role and standing of the sponsoring institution, reputation and credentials of the author, the clarity of the information and the extent to which the information can be supported or ratified by other authoritative sources.

Plagiarism
The full policy on Academic Integrity and Plagiarism is found in the Policy Directory on the UOW website.

"The University’s Academic Integrity and Plagiarism Policy, Faculty Handbooks 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. This is considered academic misconduct and students place themselves at risk of being expelled from the University."
Submission of Assessments
Refer to the submission requirements under the details of the individual assessments. Students should ensure that they receive a receipt/evidence acknowledging assessment submission. Students will be required to produce this in the event that an assessment task is considered to be lost. Students are also expected to keep a copy of all their submitted assignments in the event that re-submission is required.

Assessment Return
Students will be notified when they are able to view their marked assessment. In accordance with University Policy marked assignments will usually only be held for 21 days after the declaration of marks for that assignment.
Section C: General Advice

Students should refer to the Faculty of Science, Medicine and Health website for information on policies, learning and support services and other general advice.

University Policies

Students should be familiar with the following University policies:

a. Code of Practice – Teaching and Assessment

b. Code of Practice – Research, where relevant

c. Code of Practice – Honours, where relevant

d. Student Charter

e. Code of Practice – Student Professional Experience, where relevant

f. Academic Integrity and Plagiarism Policy

g. Student Academic Consideration Policy

h. Course Progress Policy

i. Graduate Qualities Policy

j. Academic Complaints Policy (Coursework and Honours Students)

k. Policy and Guidelines on Non-Discriminatory Language Practice and Presentation

l. Workplace Health and Safety, where relevant

m. Intellectual Property Policy

n. IP Student Assessment of Intellectual Property Policy, where relevant

o. Policy on Ethical Objection by Students to the Use of Animal and Animal Products in Coursework Subjects, where relevant

p. Human Research Ethics Guidelines, where relevant

q. Animal Research Guidelines, where relevant
r. Student Conduct Rules and accompanying Procedures or Research Misconduct Policy for research students

Student Support Services and Facilities
Students can access information on student support services and facilities at the following link. This includes information on “Academic Support”, “Starting at University”, “Help at University” as well as information and support on “Career’s and Jobs”. http://www.uow.edu.au/student/services/index.html

Student Etiquette
Guidelines on the use of email to contact teaching staff, mobile phone use in class and information on the university guide to eLearning ‘Netiquette’ can be found at http://www.uow.edu.au/student/elearning/netiquette/index.html

Version Control Table

<table>
<thead>
<tr>
<th>Version Control</th>
<th>Release Date</th>
<th>Author/Reviewer</th>
<th>Approved By</th>
<th>Amendment</th>
</tr>
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<tr>
<td>1</td>
<td>20151207</td>
<td>A/Pr Todd Minchinton Subject Coordinator</td>
<td>Sonia Losinno - ADE Nominee</td>
<td>Final BIOL251 Autumn 2016 Subject Outline</td>
</tr>
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</table>