

Te Kura Pūtaiao Koiora
School of Biological Sciences

Ngā Whakamārama | Course Information - 2024

BIOL275 Field Ecology (24S1 [C])

0.125 EFTS, 15 points, Semester 1 [17/1/24 Course Information version]

Whakamahuki | Description

This course provides a fundamental grounding in the practical skills used in ecology, the study of relationships between organisms and their environment. In combination with the co-requisite course BIOL274 Principles of Ecology, the two courses cover the theoretical and practical skills in ecology necessary for students to advance to 300-level ecology courses. There is a particular emphasis on the problems and issues affecting natural systems, and how ecological knowledge can be applied to achieve solutions. The focus of the course is a four-day field trip to the UC Cass field station near Arthur's Pass National Park. Combined with laboratory sessions prior to develop core skills, the field course allows students to develop expertise in field experimental design and sampling, data analysis and interpretation, and identification of common species as well as providing practical experience in some wonderful high country environments. We will also recognise taonga species and consider appropriate Māori protocols (tikanga) for sampling in the field. Overall, this course provides a comprehensive platform for those wanting to undertake more advanced ecological study.

To undertake all aspects of the course, students will need to have a reasonable level of fitness that allows them to travel over steep untracked forest and grassland, and have footwear and clothing that allows them to undertake field work safely in a mountain environment. Participation in the field course also involves a three-night stay at the Cass field station in bunkroom accommodation similar to a backcountry hut and with catered meals. This involves relatively close quarters living, limited internet access, working in groups, and pitching in to help with chores. We can cater for most dietary requirements, but please contact the course technician if your dietary requirements are particularly specialised. It is essential that students disclose health-related issues that might affect their safe participation in this course, via the field participant form filled in prior to the trip. Please contact the laboratory and field trip co-ordinator (Aynsley Macnab) if you have any questions about any of these aspects of the course.

The combination of BIOL274 and BIOL275 is a prerequisite for ecology courses at 300-level, and for students intending to progress to postgraduate level in ecology. It is assumed students will be taking, or have taken, BIOL274 as co-requisite or a pre-requisite. It will also be helpful if students are developing statistical skills to underpin data analysis undertaken on this course. For example, we generally expect you have taken STAT101 (or equivalent) in your first year, and expect you will likely be taking a 200 level data analysis course (BIOL209, GEOG205, or GEOG208). If this is not the case, then discuss this with the course coordinator.

Kairuruku Akoranga | Course Co-ordinator

Prof Matthew Turnbull, Julius von Haast 234, matthew.turnbull@canterbury.ac.nz

Ngā Pūkenga | Lecturers

Prof Angus McIntosh, Julius von Haast 333, angus.mcintosh@canterbury.ac.nz

Dr Sara Kross, Julius von Haast 232, sara.kross@canterbury.ac.nz

Kim Doherty (laboratory and field trip co-ordinator), kim.doherty@canterbury.ac.nz

Whāinga Mahi | Goals

We aim to develop basic field practical techniques in ecology, and build skills in the analysis and communication of ecological knowledge.

Hua Akoranga me ngā Aromatawai | Intended Learning Outcomes and Assessment

As a student in this course, I will develop the ability to:

Learning Outcomes

1. Conduct field work safely (*assessment: pre-field course operational requirements quiz, field trip gear check, and attending the field course*)

Related Graduate Attributes and Kaupapa: Critically competent in the core academic discipline, Employable, innovative and enterprising.

2. Develop and implement field sampling protocols including plant & animal field identification, and undertake basic data analysis and interpretation (*assessment: field trip short and long reports*)

Related Graduate Attributes and Kaupapa: Critically competent in the core academic discipline, Employable, innovative and enterprising.

3. Synthesize scientific literature to provide appropriate background, context and interpretation for a field study in ecology (*assessment: field trip long report*)

Related Graduate Attributes and Kaupapa: Critically competent in the core academic discipline, Employable, innovative and enterprising. Globally aware.

4. Analyse and present the results of an ecological field study in the format of a scientific paper (*assessment: field trip long report*)

Related Graduate Attributes and Kaupapa: Critically competent in the core academic discipline, Employable, innovative and enterprising.

5. Apply an understanding of biculturalism in Aotearoa New Zealand as it applies to native species as taonga and responsibilities to Treaty obligations during fieldwork. In reports we will expect native species to be referred to by both their scientific and Māori names, and for the interactions of findings with Māori knowledge be discussed where appropriate (*assessment: pre-field trip operational requirements quiz, mihi, field trip long report*).

Related Graduate Attributes and Kaupapa: Biculturally Competent and Confident (kaupapa 1,3,4,6,7), Employable, innovative and enterprising.

Pūkenga Ngaio | Transferable Skills

As a student in this course, I will develop the following skills:

- Conducting safe field work. *A health & safety plan is prepared for our field work which involves identifying, and eliminating, mitigating or minimizing hazards. All students must complete a three-step procedure, including a quiz, to be able to attend the field course.* GP2
- Formation of hypotheses & explanations. *Developing explanations for patterns and observations is important to developing an understanding of principle concepts. We will encourage this through discussions and feedback sessions on the field course.* GP1
- Collecting useful quantitative data to test hypotheses including: experimental design and hypothesis formation; field sampling protocols for estimating cover, species abundance and community composition; plant and animal identification (including the use of keys); and data organization and manipulation in spreadsheets. *We will conduct two smaller field sampling exercises in the labs to build skills for four more sophisticated field studies that will be undertaken on the field course. These four field investigations provide both the real-world context for lectures and develop hands-on practical skills, and will involve sampling both plant and animal communities in the Canterbury high country.* GP1,2 & 4
- Basic data analysis and interpretation (t-test, chi-square test, regression and ordination). *Important for research, as well as in all private-sector and government organizations to ensure rigour in findings. These will be introduced in the laboratory sessions and will be applied to the field data collected on the field course and used in both short and long report write-ups.* GP2
- Writing a report in the format of a short report & a scientific paper. *Clear written communication is especially important in ecology where a main goal is to influence the management of natural resources and ecosystems. One laboratory will be devoted to developing*

scientific reading and writing skills, and the components required in the long reports will be listed in a marking schedule in the field course handbook. Writing for specific audiences is important. GP 2

*GP1, GP2, etc, refer to Graduate Profile attributes: (1) Critically competent in a core academic discipline of their degree; (2) employable, innovative and enterprising; (3) biculturally competent and confident; (4) engaged with the community; and (5) globally aware.

Āhuatanga Tāura | Graduate Profile

Critically competent	Employable, innovative and enterprising	and	Biculturally competent and confident	and	Engaged with the community	Globally aware
Yes	Yes		Yes		-	Yes

Aromatawai | Assessment

The course is conducted by laboratories and a **compulsory** field trip in the mid semester lecture break, as detailed below:

- 5% pre-field course operational requirements & quiz (to be completed by end of week 4 ie 5 pm Friday 15 March 2024)
- 20% (2 x 10%) short field trip reports, completed on, and due during, the field trip. Details will be provided in the field course manual.
- 70% major field trip report due in week 10 online at Learn by 11pm Sunday 19 May 2024. Details on requirements will be in the field course manual.
- 5% mihi – developed and presented as a group activity on the field-trip.

Note that Biology policy (see end of this Course Information for details) requires you to average at least 40% in the short reports and major report, AND get an overall mark of at least 50%, to pass the course. To complete these reports, you must attend and participate in the field course. That means you need to be fit and healthy at the start of the course to undertake the field work and be available to do so. If unforeseen circumstances prior to departure mean you cannot attend the field course, please contact the Course Co-ordinator as soon as possible.

Akomanga | Teaching Tutorials & Laboratories

Tutorials and laboratories will take place during weeks 1, 3, 4, 5 and 9 of the semester. See schedule below and the UC timetable for more details, including room locations. Laboratory introductory talks will begin promptly on the hour. **NB the location of sessions (and their name in the timetable) varies among weeks – see the timetable for exact details! Abbreviations used in the timetable are listed on our schedule below.**

Field Trip

We will run four-day trips to the UC Cass Field Station near Arthur's Pass National Park in the mid semester break. You pick ONE of the trips. Importantly, by the end of **Week 2** you will need to book your preference for one of the trips in the timetable. Then, you will need to complete the operational requirements, including health and safety forms, on the course Learn site by end of **week 4** to attend the field trip. Note that the field trip is **compulsory and provides the source of 95% of the assessment for this course.**

Trip dates are:

EITHER Tues 9 – Fri 12 April 2024
 OR Fri 12 – Mon 15 April 2024
 OR (only if needed) Mon 15 – Thur 18 April 2024

The first three days of the trip will be in the field at the Cass Field Station (see Field Trip A on timetable). The final day of each trip will be conducted on the UC campus (see Workshop A on timetable).

The 15 - 18 April trip will only run if course enrolment numbers require it and this will be determined in the first week of term. To participate in the field trip students will need to have a **level of fitness** that allows travel over untracked forest and grassland, and have **footwear and clothing** that allows field work to be undertaken safely in a mountain (wet and cold) environment. If either of these aspects will pose a problem for you, please contact the field trip organiser, Kim Doherty, as soon as possible. Also see other notes in the Course Description above about what the field course entails.

Ētahi atu tuhinga e whai take ana | Other useful readings

Smith, T. M & Smith L. S. (2015) Elements of Ecology, 9th (Global) Edition. Pearson Education Limited, Edinburgh Gate, England.

Begon M, Howarth RW, Townsend CR (2014) Essentials of ecology, 4th edition. Blackwell. (Previous course textbook)

Dawson, J, Lucas, R (2000) Nature guide to the New Zealand forest. Godwit. (Field guide useful for field course).

Rauemio Ako | Course material

Additional information including course handouts, supplementary reading and field trip details will be posted on Ako | Learn.

Please also note that we will be requesting that you submit written work in electronic form (for grading and for assessment of originality using “Turnitin”). Instructions will be given on how you do this via Learn.

Me whakaoti i mua | Prerequisites and notes

Corequisite/Prerequisite: BIOL274 (All students intending to progress to 300-level ecology courses should take both BIOL274 and BIOL275. You can take BIOL274 in the same semester, or have already passed it.)

Restrictions: BIOL270 (ie Students who have taken the previous version of the course, BIOL 270, are restricted from taking BIOL 275)

Lecture & Laboratory Schedule (Wātaka) 2024

Names of items as they appear in the online timetable are in *italics*. Pre-Field trip preparation steps (1-6) are described on the Course Learn site.

Week	Date	Activity (see CIS for exact rooms and times)
1	23 Feb	Course Introduction tutorial (<i>Tutorial A</i>)
2-4	26 Feb–15 Mar	Complete pre-field trip requirements online (steps 1-4 on Learn) Complete the quiz on Cass area (step 5 on learn)
3	4-8 March	Lab 1 (<i>Tutorial B</i>) runs this week: Sampling + and responsibilities in terms of Consultation + mihi prep (Turnbull)
4	11-15 March	Lab 2 (<i>Computer Lab A</i>) runs this week: Experimental Design and analysis (Turnbull)
5	18-22 March	Lab 3 (<i>Computer Lab A</i>) runs this week: Reading, writing and library use (Kross)
6	25-28 March	Assemble field gear (Step 6)

Mid semester break: Four-day field trips (*Field Trip A Cass + Workshop A on campus*)

See details above for dates and assessment

7	22-26 May	Work on field reports
8-9	1-10 May	Field report tutorials these weeks (Go to the tutorial [<i>Tutorial C</i>] for your field trip if you can, we'll advise which is which later)

9-10	6-17 May	Work on field reports
10	13-19 May	Field trip long reports due on Learn (see above for specifics)

Feedback from Course Surveys

On a 1-5 scale where 1 = worst and 5 = best (last surveyed in 2018 as part of the BIOL 270 course)

Standard questions	BIOL270 2018 (n=53, 84%)	275 2021 (n=39, 80%)
Q1 - The materials provided helped me to understand what was required to succeed in this course.	4.5	4.3
Q2 - The organisation of this course helped me learn.	4.5	4.3
Q3 - I found the workload was appropriate to the level of the course.	4.3	4.3
Q4 - I found the assessments appropriate for the course.	4.4	4.3
Q5 - Where I sought feedback on my assessments, I found it helpful.	4.3	4.4

The following issues and comments were raised feedback by students at the 2021 end-of-course survey and some surveys prior (general summary). Actions or responses indicated in *italic*.

1. Feedback on short reports was useful for long reports & tutorials were helpful for long report write-up. *One student said in the feedback: short reports were given back before the long report due date which helped us improve them and our writing skills in general. Yes, the aim of the short reports is to focus on getting the analysis and graphs done and to get the basics of the write up there so we can give you feedback.*
2. Field trip was great: good see how things worked in the real world, getting to know class, practical exercises useful, enjoyable, hands-on (many students). *Thanks, that's just what we hoped!*
3. Lab on writing was too late (when after the break). *We've moved it back to before the field trips now.*
4. Content in BIOL 274 and 209 is useful for this course, but sometimes comes too late. *We've moved the due date of the major report back as far as possible so you can take advantage of the materials in those other courses. And it is very useful to have taken, or be taking, BIOL209!*
5. There is a lot riding on the long report (70%). *Yes, that is true, but it is a major focus for the field course, and all of the other assessment items are helping you write, especially the short reports (see 1 above!).*
6. Producing the two short reports while on the field course feels pressured. *We make them due on the field course because we don't want you to spend lots of time tweaking the presentation when the aim is to give you feedback on the overall structure, approach and content.*

RULES, REGULATIONS, AND WHAT TO DO WHEN THINGS GO WRONG

[updated January 2023]

If in doubt: ASK! The course coordinator is happy to answer questions. All staff involved in the course are available for advice on specific issues.

What do I do if I have to miss a test/exam or if my performance was impaired?

In Biological Sciences, we require a satisfactory level of achievement in both the theoretical aspects of the discipline and in practical activities. **This means you must attend all class activities (labs, tutorials, fieldtrips)** and submit all items of assessment unless you have a very good reason not to (e.g. medical reasons) and if this has been approved by your course coordinator.

If you feel that **illness, injury, bereavement or other extenuating circumstances beyond your control** prevented you from completing a **test/exam** worth 10% or more of the total course assessment, or if these circumstances affected your performance in such assessments, you should apply for Special Consideration. Applications for Special Consideration should be submitted via the Special Consideration website <http://www.canterbury.ac.nz/study/special-consideration/> within five working days of the assessment or its due date. You should also notify the course coordinator. If you apply for Special Consideration because of medical reasons, you should visit a doctor within a reasonable timeframe (application form available on the website above or from the Student Health Centre).

The Special Consideration provisions are intended to assist students who have covered the work of a course but have been prevented by illness or other critical circumstances from demonstrating their mastery of the material or skills at the time of a test/exam – **they do not excuse you from doing the test/exam** within a reasonable time agreed with the course coordinator.

What do I do if I have to miss a quiz or assignment or if I need an extension?

You cannot apply for Special Consideration if you miss an assessment that is not a test/exam, such as a quiz, lab report, essay, literature review or other assignment, or if the test/exam is worth less than 10% or more of the total course assessment. If this happens or if you need an extension because of **illness, injury, bereavement or other extenuating circumstances beyond your control**, please contact the course coordinator and arrange an alternate activity and/or submission date. You should also do this if you have to miss a laboratory, tutorial or field trip.

What are other valid reasons to miss an assessment or mandatory course activity?

The Special Considerations policy (<https://www.canterbury.ac.nz/about/governance/ucpolicy/student/special-consideration-procedures-and-guidelines/>) outlines only a few kinds of activities that UC considers valid reasons for missing an assessment or mandatory course activity other than those outlined above. These include **involvement in international or national representative sport or cultural groups**. Holiday trips, birthday parties, weddings, work-related commitments etc. are not given special status in this University policy. Please contact your course coordinator to ask for an alternate activity and/or submission date if you are eligible.

Special Consideration for late discontinuation of a course

Students prevented by **extenuating circumstances** from completing the course after the final date for withdrawing, may apply for Special Consideration for late discontinuation of the course. Applications must be submitted via <http://www.canterbury.ac.nz/study/special-consideration/> no later than five working days after the examination period has finished.

Academic Integrity

It is the responsibility of each student to be familiar with the definitions, policies and procedures concerning academic misconduct/dishonest behaviour. Instances of academic misconduct will be dealt with in a serious and appropriate manner. Students should refer to: <https://www.canterbury.ac.nz/about/ako/academic-quality/academic-integrity/>

Plagiarism

It is essential that you are aware that plagiarism is considered a very serious offence by the academic community, the University and the School of Biological Sciences. Plagiarism is defined as taking content from another work or author and presenting it, without attribution, as if it is your own work. Content here includes text (sentences or major parts of sentences), display items (graphs and tables), and overall structure (the detailed sequence of ideas). Plagiarism includes:

- re-use of previous assignments (even if each individual sentence has been rephrased to say the same thing in different words, if the overall structure is re-used).
- copying of another student's work (with or without their consent).
- the unreferenced use of published material or material from the internet, e.g. cutting and pasting of paragraphs or pages into an essay.

For most pieces of in-term assessment you will be given information concerning the use of direct and indirect quotes from previously published work. If you have any doubt about the appropriate use of published material, please speak with an academic staff member. If you are unsure what plagiarism is, seek advice.

It is a School policy that courses will likely that you submit work electronically for subsequent analysis of originality using *Turnitin*. Students agree that by taking courses in BIOL, assessments may be submitted to Turnitin.com for textual similarity review. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use as posted on the Turnitin.com site.

Where do I hand in assignments and then collect them once marked?

All assignments should be submitted as directed by the course coordinator. Typically, this will be electronically via Learn for on-line grading and for analysis in *Turnitin*. If a hard copy is requested, assignments should be placed in the designated collection boxes in the foyer of the 2nd floor of the School of Biological Sciences (Julius von Haast building, at the top of the stairs). All assignments must be accompanied by a cover sheet signed by you stating that the submitted work is not plagiarised. Cover sheets are available on top of the collection boxes, or you can download one from the Biology website (<http://www.canterbury.ac.nz/media/documents/science-documents/assignment-coversheet.pdf>).

Marked assignments will be returned through Learn or, if in hard copy, can be collected from the School of Biological Sciences reception, unless directed otherwise by the course coordinator. Teaching staff will endeavour to return work as soon as possible, and should contact you if there are likely to be any delays that will prevent return within the maximum 4-week timeframe.

What if I can't get it finished in time?

Reports and assignments should be handed in on time. Extensions may be granted if you have a valid reason (see above). **If you require an extension, you should request one from the course coordinator** (or the lecturer responsible for marking the work), with as much notice as possible. Please do this BEFORE the deadline for the assignment. **If you have been given an extension and you have been asked to submit a hard-copy of your work, you should hand the work DIRECTLY to the course coordinator** (do not put it in the drop box as it may not be cleared after the due date).

If an extension has not been granted:

- work handed in within 1 hour of the deadline: penalty of up to 5 percentage points of the mark for the assignment (e.g., a mark of 75% might be reduced to 70%).
- work handed in 1 – 24 hours after the deadline: penalty of 10 percentage points of the mark for the assignment (e.g., a mark of 75% is reduced to 65%).
- work handed in 1 – 7 days after the deadline: penalty of 15 percentage points of the mark for the assignment (e.g., a mark of 75% is reduced to 60%).
- work handed in more than 7 days after the deadline will not be marked or earn credit.

What if I have written more than the word or page limit?

If there is a word limit on an assignment, it is usually there to stop you doing too much work and to encourage you to write succinctly. You can be up to 10% over without too much worry, but if the length increases beyond that your mark may suffer due to failure to follow the requirements. If you find yourself way over the word limit talk to the lecturer concerned about how to get your assignment to an acceptable length. Unless specifically advised that there is flexibility, you must adhere to the word limit indicated.

What if I fail part of the course?

In Biological Sciences, we require a satisfactory level of achievement in both the theoretical aspects of the discipline and in practical activities. This means you must attend all class activities and submit all items of assessment unless you have a very good reason not to (e.g. medical reasons). **A student must attain an average score of at least 40% for in-course assessments (e.g. assignments, reports, quizzes) and an average score of at least 40% in the exam and/or tests, AND score at least 50% overall for the course, to be awarded a passing grade. See the course outlines for clarification of the assessment items included in each category and ask the coordinator if you are still unsure.**

What's the best way to give feedback?

We welcome constructive feedback at all times – help us to make this a valuable course for you. We endeavour to remain approachable at all times. If you would rather give feedback anonymously, please use the online course survey or talk to lab demonstrators, or your class rep (who will all report back to the staff-student liaison committee that includes a representative from each of the undergraduate classes). Class representatives will be selected from each class at the start of course.

What's the best way to complain?

If you feel you have not been fairly treated during this course, please raise the issue with the lecturer or course coordinator in the first instance. Other avenues include your class rep., who can raise issues anonymously, or the UCSA education coordinator.

Grading

A+	90% or above
A	85 – 90
A-	80 – 84
B+	75 – 79

B	70 – 74
B-	65 – 69
C+	60 – 64
C	55 – 59
C-	50 – 54

A restricted pass (R) **may** be awarded to those who are close to a pass (i.e. an overall score of 48-49.9%) AND who have achieved at least a 40% overall score in both in-course assessment and tests/exams. If an R grade is awarded you gain credit for the course but **cannot continue into papers that require this course as a pre-requisite**. NB. The R grade is only available at 100 and 200 level - it cannot be awarded for third year papers.

Failing grades: D 40-49 E 0-39

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