

## Course Information / *Ngā Whakamārama* – 2024

### **BIOL424**

### **Community Ecology**

**0.125 EFTS, 15 Points**

### **Second Semester**

#### **Lecturers / Pūkenga**

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- Associate Prof. Jonathan Tonkin, *Population and Community Ecology*, Julius von Haast 331, Phone: +6433690413, Internal Phone: 90413, [jonathan.tonkin@canterbury.ac.nz](mailto:jonathan.tonkin@canterbury.ac.nz)
- Professor Julian Olden, *Freshwater Ecology and Conservation*, Erskine International Visitor, [olden@uw.edu](mailto:olden@uw.edu)

\*\*Course coordinator

#### **Course Description / *Whakamahuki***

The aim of this course is to investigate fundamental aspects of community ecology—the study of interactions between two or more species and their environment. The course will be of value to anyone interested in biodiversity, global environmental change, and ecological theory. Major themes include food web ecology, metacommunities, determinants of community structure, community assembly, species interactions in diverse assemblages, and threats to biodiversity. Given the strong conceptual basis of the course material, we will often present topics via a mix of theoretical and empirical research. We expect that you will make an earnest effort to dissect statistics, equations and models and be able to explain what they show in plain English. During the course, each student will do an independent research project that *require basic skills in management, organization, and exploration of data, as well as graphical and statistical analyses* (i.e., matching skills taught in Biol209 and Biol309).

#### **Feedback from 2019 course survey (62% response; 5 out of 8)**

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|--|-----|
| 1. Materials provided helped me understand what was required to succeed in this course | 3.4 |
| 2. The organisation of this course helped me learn                                     | 3.6 |
| 3. Workload was appropriate to the level of the course                                 | 3.8 |
| 4. Assessments were appropriate for the course   | 3.2 |
| 5. Where I sought feedback on my assessments, I found it helpful                       | 3.2 |

The following issues were raised in written feedback by students as part of the course survey.

### **Positive features**

- The two paper seminar format was good for critically analyzing and pulling apart papers.
- For the seminars I believe the workload was appropriate.

### **Negative features (Action/response indicated in bold)**

- I would have appreciated a more detailed handout for the assignment.
  - o **We have added information about the Research Project to the course handouts. We have also added information about the Research Project to both the Course orienteering meeting and the first seminar. Finally, we encourage students to setup meetings with the teachers to discuss specific issues related to their completion of the Research Project.**
- Weekly having different tutors might be useful in undergraduate courses, however it felt disjointed for a post grad class, and I didn't feel a strong undercurrent/theme from the course due to this.
  - o **Community ecology is a complex research field with a bewildering number of theories and frameworks and this level of complexity can be confusing and intimidating for new graduate students. We have changed the first class to focus on this topic to better prepare the student for what he/she will encounter in the course and future graduate studies. We have also reduced the number of teachers from 4 to 3 to facilitate better student-teacher interactions. Finally, we now include discussions in the seminars about how the different topics link to each other.**
- Would have appreciated just a sentence on each of the strengths and weakness weekly assignment, to inform on how my interpretation was going, doesn't have to be marked, but a tiny bit of feedback would have been appreciated.
  - o **We discuss, in detail, strengths and weakness of research papers in the seminars and expect students to actively participate in the seminar. We therefore expect each student to cross-check her/his own comment with comments raised in the class discussion (i.e., we expect students to self-evaluate his/her own comments and bring up, in class, issues related to lack of understanding). We also encourage students to take initiative and setup meetings with teachers for more specific evaluations of his/hers understanding of the seminar discussions.**

**The course is constantly being refined and updated, and students should see the benefits of this. Note that basic skills in data analysis, data management, graphical data analysis, statistical tests, and usage of Excel and statistical software (like R) is expected. These skills are essential to complete the Research Project.**

### **Prerequisites**

Subject to approval of the Head of School. Undergraduate courses in ecology and statistics are a strong advantage.

## **Graduate profile / Āhutatanga aura**

This course will provide students with an opportunity to develop these UC Graduate Attributes

([www.canterbury.ac.nz/study/graduate-profile/students/what-are-the-graduate-attributes/](http://www.canterbury.ac.nz/study/graduate-profile/students/what-are-the-graduate-attributes/)):

- GP1 Critically competent in a core academic discipline.
- GP2 Employable, innovative and enterprising.

## **Course learning outcomes / Hua Akoranga and Assessment / Aromatawai**

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

- Understand the interplay between theoretical and empirical approaches to community ecology (GP1, GP2).
- Link an understanding of the structure and function of diverse assemblages with the fundamental ecological theories that underpin this structure (GP1, GP2).
- Be able to critically review scientific literature, including theoretical studies (GP1, GP2).
- Develop the intellectual freedom to think critically about scientific issues (GP1, GP2).
- Understand the keys to formulating research questions (GP1, GP2).
- Be able to synthesise, using evidence and reasoning, ecological concepts from basic principles (GP1, GP2).

## **Transferable Skills Register / Pūkenga Ngaio**

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

- Performing original research. From the outside, undertaking original research can appear straightforward but the reality is anything but. By conducting a research project, the student will understand the ins and outs of research - including its pitfalls - in a direct fashion, better preparing them for the challenges ahead in a work environment (GP1, GP2).
- Critically reviewing and synthesising information. In everyday life and in many job situations you will be required to read information from different sources, construct your own understanding and shape your own viewpoint. In tutorials, we will discuss recent and/or classic research papers in a group environment and this will develop your abilities to identify the essential elements of research outputs and to build upon them in your own project (GP1, GP2).
- Written and verbal communication. Clear written communication is essential for most professional careers and communicating verbally to a range of audiences is also critical in any area of endeavour (GP1, GP2).

## **Tutorial Topics and Timetable / Wātaka**

Each of six seminars will run for 2h. Proposed topics are listed below. The Timetable has seminars running on **Monday 15:00-16:00 in Jack Erskine 241 for the initial course orientation meeting, and Tuesday 15:00-17:00 in Jack Erskine 111** (but always check for updates prior to the seminar, e.g., on <https://www.canterbury.ac.nz/courseinfo/>).

<b>Tutorial number and topic</b>	<b>Run by</b>
0. Course orientation meeting	Tadeu (July 15)
1. Overview of community ecology and projects	Tadeu (July 23)
2. Biodiversity: Key concepts, dimensions and theories	Julian (July 30)
3. Indirect facilitation	Mads (August 06)
4. The role of environmental heterogeneity and complexity	Mads (August 13)
5. Traits-based community ecology	Julian (August 20)
6. Metacommunity ecology	Tadeu (September 10)

<b>Assessment</b>	<b>Mark allocation:</b>	<b>Tentative due date:</b>
Talking points	10% total	Morning before each of seminar 2 to 6
Project outline	5%	End of 4th week term 3 (Friday 09/8)
Research project	45%	End of 4th week term 4 (Sunday 04/10)
Final take home exam	40%	Last week of Term 4 (14-18/10)

### Reference Material

There is no textbook for this course. You will be assigned a series of readings from the scientific literature. The readings will be listed on Learn by the lecturers at least one week before the seminar. Students are expected to have read the material and submit their Talking points sheets, and to be prepared to discuss the papers by the start of each seminar.

### Tutorial sessions

Tutorials will take the general form of discussions on the topic and reading outlined in the handout. The format may vary between different teachers.

### Assessment / Aromatawai

#### Talking points - 10% (mandatory)

By 10 am the morning of each seminar, you must submit (via Learn) a brief critical assessment for each paper in the readings. At a minimum, this should be three points:

- At least one strength.
- At least one weakness: for example, one untested assumption; design flaw in the study that undermines the conclusions; wrong interpretation of a key concept.
- At least one new question that arises from their results.

During each seminar, you should 'self-evaluate' by comparing your own assessment to the assessment highlighted and discussed by the other students and the lecturer.

#### Project outline – 5%

To ensure you think of a research project topic early and get early feedback, you will be required to submit an outline of your project by the end of the fourth week of the course.

**Research project – 45%**

In science, a key skill is the ability to analyse a new dataset and write a research paper. The major in-term assessment is to analyse novel community data and write a scientific paper following the format of a Research article in Ecology (no more than ~5000 words in length, including tables, figure legends, abstract, and references). Several datasets are available to choose from - but different novel community data may alternatively (after consultation with the lecturers) be identified and analysed by motivated students. More details will be given in class and can be found on the course Learn page.

**Examination - 40%**

This will be a 24-hr take-home exam that will be submitted online. Date and time will be confirmed in consultation with the class. You will write a peer review of ONE out of three provided scientific papers, outlining the paper's strengths and weaknesses.

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

[updated March 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 text/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.
- the use of text generated using artificial intelligence technology without disclosure and when it is not intended to be part of an assignment.

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