

## Course outline | Ngā Whakamārama 2024

### **BIOL113-24S1 (C) Semester 1, 2024**

#### **Diversity of Life**

0.125 EFTS, 15 Points

29 Feb 2024 - 23 Jun 2024

#### **Course description | Whakamahuki**

This course provides an overview of the vast diversity of life on Earth. You will hear about the evolution, structure, function and importance of animals, plants and microbes. The first module of the course focuses on the diversity, reproduction and structure of plants. The second focuses on microorganisms whereas the third examines animals and includes discussion of animal diversity, respiration, circulation, excretion and water balance. Hands-on investigation of a variety of organisms in laboratory classes is an important part of the course.

The course provides essential background material that all biologists need and is one of the three 'core' biology courses (BIOL111, BIOL112 and BIOL113) required to obtain a BSc majoring in Biological Science. Whenever possible, we will highlight connections among topics taught in these and other biology courses.



#### **Lectures and labs**

This course is composed of 34 lectures and 8 labs. Lab attendance is compulsory. See below for information about lab stream assignment and items that you need to purchase for the labs.

#### **Learn - [learn.canterbury.ac.nz](https://learn.canterbury.ac.nz)**

The Learn website is your 'home base' for BIOL113 and other courses that you are taking at University of Canterbury. On the BIOL113 Learn pages, you will find the topics of each lecture, which textbook pages you need to read and how to prepare for each lecture and lab. The online quizzes can also be found on Learn, as well as your marks for these quizzes and other items of assessment. Video recordings of each lecture are available from Echo360 in Learn.

#### **Check your UC email regularly!**

From time to time, we will email you information about various aspects of the course. These emails will be sent to your UC email address. Please check your email daily.

#### **Questions?**

See below for information about the BIOL113 teaching team and who to approach if you have questions or need help or support.

## Textbook

Your textbook is Biology 2e (Clark, Douglas and Choi), which is on online, freely available text. You can view the textbook online, or download your own PDF copy, and you can access the textbook here: <https://openstax.org/details/books/biology-2e?Book%20details>



## Assessment | Aromatawai

Item of assessment:	When:	Details:	Location:	Marks (% of final course mark):
12 online quizzes	Every week	In a weekly quiz, you will be tested on the content of the lectures and associated readings of the previous week, as well as the content of the lab manual for the lab offered in the following week (when relevant). Each quiz is due at noon on the Monday following the lecture week that is assessed. These quizzes are aimed to motivate you to study throughout the semester (instead of only right before each Module test (see below) and to encourage you to prepare for upcoming labs by reading through the relevant sections of your lab manual.	LEARN	34%
Module 1 test (plant diversity)	28-Mar-24, 7-9pm	Closed book test: 1 essay, 2 short answer and 20 multiple choice questions about lectures 1-12 and labs 1&2	On campus, on paper	22%
Module 2 test (microbial diversity)	15-May-24, 7-9pm	Closed book test: 1 essay, 2 short answer and 20 multiple choice questions about lectures 13-23 and labs 3-5	On campus, on LEARN	22%
Module 3 test (animal diversity)	During Semester 1 exam week.	Closed book exam: 1 essay, 2 short answer and 20 multiple choice questions about lectures 24-34 and labs 6-8	To be announced (on campus)	22%
Skills register	Duration of semester	A practical skills register, assessed in laboratory and recorded in your lab manual.	In labs	No formal assessment at 100-level but skills will be formally assessed in future years.
Total				100%

If you miss one of the module tests or if you consider that your performance has been impaired, you should apply for Special Consideration for this assessment. See [www.canterbury.ac.nz/exams/](http://www.canterbury.ac.nz/exams/) for more information.

To achieve a passing grade in this course, you must achieve:

- An average of at least 40% for the three module tests AND
- An average of at least 40% for the online quizzes AND
- A total course average of at least 50%.

If you fail to achieve the 40% minimum requirements, a grade of D (or E) will be awarded, even if your total score is greater than 50%. See below for more details and grade boundaries.



### Information about lectures

The lectures form the core of BIOL113, although they are not aimed at covering ALL topics of your textbook and other readings. Your lecturer will discuss and illustrate relevant topics from your readings, introduce concepts that are not covered in the readings and will ask questions to test your understanding. The lectures are also a great opportunity for you to ask questions. Detailed lecture notes will not be provided, because research shows that students retain information better by taking their own lecture notes. Taking good notes is therefore essential and will help you to identify the most important points of each lecture. You are expected to study the relevant textbook pages and other readings (outlined on Learn) before each lecture. The lectures have been developed to build on your understanding of the textbook chapters, so you will find that you will only understand the lectures sufficiently, if you study the textbook beforehand.

### Information about labs – good preparation is vital!

The laboratories (3 hours each) help you to develop your understanding of topics addressed in the lectures and textbook. In addition, they allow you to develop important practical skills and are a great opportunity to ask questions or get help from your lecturers. Preparation for labs is vital to your success in the lab. Before each lab, study the relevant textbook pages (outlined on Learn) and read the lab manual pages. Students who come to the labs unprepared typically struggle with finishing the lab exercises in time. Lab demonstrators will determine if you have completed all exercises when you leave the lab and will record your attendance. Make sure that you don't leave without showing your lab manual to one of the demonstrators! ***Please be advised that Labs 7 and 8 involve dissecting animals (dogfish) or animal organs (sheep heart). If you are seriously uncomfortable with this, you need to contact Dr. Pieter Pelser at the start of the course, so that alternative activities can be discussed.***

### Assessment during the lab

One of the key learning outcomes from the laboratory is to give you practical, hands-on experience in the field of biology, across a range of organisms, subject areas and activities. Our course is called Diversity of Life; this means that, in our labs, you will be learning lots of transferable skills that you will need to draw on in future years during your undergraduate career. The **Skills Register** indicates which **skills we expect you to demonstrate competence in**, and these skills will be ticked off in the laboratory, during the labs. **You are expected to have completed the Skills Register before you leave the associated lab.** Demonstrators will check your lab manual for you at the end of the lab. Importantly, **ANY content that is presented in labs is eligible to be assessed in your Module tests and your Final Exam**, so it's hugely important that you engage fully with the labs.

**What is my lab stream?**

Each lab will be offered four times. You will choose your stream when you enrol in BIOL113. Contact the course coordinator (see below) if you have not been assigned to a stream. You cannot switch streams during the semester, so have a good look at your course scheduled before choosing your stream

**Lab manual**

The lab manual contains the lab exercises that you will be working on. You need to collect it from the Biology reception on the 2<sup>nd</sup> floor of the Von Haast (Biology) building during the first week of classes.

**What to buy for the labs**

The wearing of a laboratory coat is compulsory. You will also need to buy safety glasses.

To purchase approved safety glasses, lab or coats go to <https://www.canterbury.ac.nz/science/current-students/shop/>.

The collection point for purchases is inside the southern entry to the Ernest Rutherford Building. See the website above for opening hours.


**Missing a lab?**

If a laboratory is missed, arrangements should be made to attend another stream later in the week after contacting the lecturer responsible for the relevant lab (see below). Due to logistic constraints, it is not possible to make up for a missed lab in the following weeks. **IMPORTANT:** Labs can only be missed because of illness, bereavement, or other reasons for absence that are recognised by the University. See the 'Rules, Regulations, and what to do when things go wrong' section below.

**Accidents during the lab**

All accidents in which a person is injured, no matter how slightly, must be reported to the laboratory teaching staff (see below) immediately. If any equipment is broken or not functioning, please report this to the laboratory teaching staff as well.

## Who to go to - introducing the teaching team

<b>Course coordinator / Lecturer</b>  <b>Kairuruku</b> <b>Akoranga/ Pūkenga</b>	The course coordinator is your go-to person if you have any problems or questions about this course:	Dr. Pieter Pelser (Plant Diversity Module) Julius von Haast, Rm. 530 pieter.pelser@canterbury.ac.nz	
<b>Lecturers/ Pūkenga</b>	You can contact individual lecturers with questions specific lectures and laboratories:	Dr. Heather Hendrickson (Microbial Diversity Module) Julius von Haast, Rm 538 heather.hendrickson@canterbury.ac.nz	
		Dr. John Pirker (Animal Diversity Module) Julius von Haast, Rm. 236 john.pirker@canterbury.ac.nz	
		Dr. Maartin Strauss Julius von Haast, Rm. 245 (Animal Diversity Module) Matthew.turnbull@canterbury.ac.nz	
<b>Lab coordinators</b>	You can approach the lab coordinators about technical questions regarding your labs:	Aynsley Macnab (labs 1-3, 7-8) aynsley.macnab@canterbury.ac.nz	
		Craig Galilee (labs 4-5) craig.galilee@canterbury.ac.nz	
		Jan McKenzie (lab 6) Jan.mckenzie@canterbury.ac.nz	



## Graduate Profile | Āhuatanga Taura

This course will provide students with an opportunity to develop these UC Graduate Attributes (GP) and Kaupapa (K) ([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.
- GP3 Biculturally competent and confident: K1 A process of self-reflection on the nature of 'knowledge' and 'norms', K3 Traditional and contemporary realities of Māori society e.g. tikanga and kawa, te reo Māori, K7 Application of bicultural competence and confidence in a chosen discipline and career.
- GP5 Globally aware.

## Intended Learning Outcomes | Hua Akoranga and Associated Assessment | Aromatawai

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

- Describe the diagnostic characters of major groups of organisms and discuss their similarities and differences (*assessment task: online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2, GP5)
- Explain the evolutionary relationships between major groups of organisms and discuss the significance of key events in their evolutionary history (*assessment task: online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2, GP5
- Recognise and explain the importance of various groups of organisms, including humans, in ecological communities (*assessment task: online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2, GP3 (K 1,3,7), GP5
- Explain the relationship between form and function (*assessment task: online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2, GP5
- Identify and compare the different ways in which biodiversity is observed, studied and exploited (*assessment task: online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2, GP3 (K 1,3,7), GP5
- Demonstrate competence across the range of laboratory skills taught (*assessment task: Skills Register in lab manual, online quizzes, tests*)  
**Related graduate attributes:** GP1, GP2

## Transferable Skills / Pūkenga Ngaio

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

- Using dissection and compound microscopes. This is a skill required in advanced courses in biological sciences.  
**Related graduate attributes:** GP1, GP2
- Documenting biological observations in the form of notes and scientific illustrations. This skill is essential in many fields of biology.  
**Related graduate attributes:** GP1, GP2
- Using liquid and solid culture techniques. This practical skill is important for advancing in microbiology.  
**Related graduate attributes:** GP1, GP2
- Global awareness. Humans share the earth with an estimated 8.7 million other species. Being able to recognize the main groups in which they are classified enables making informed and environmentally-responsible decisions.  
**Related graduate attributes:** GP1, GP2, GP5
- Synthesising information. In everyday life and in many jobs you will be required to read information from different sources, construct your own understanding and shape your own viewpoint.  
**Related graduate attributes:** GP1, GP2, GP5
- Evidence-based critical thinking. Being able to evaluate data, formulate and test hypotheses and use scientific evidence in decision-making is an important general skill.  
**Related graduate attributes:** GP1, GP2
- Examine, observe, question and test, via hands-on experience, a wide range of organisms in the laboratory  
**Related graduate attributes:** GP1, GP2

## 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 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.
- the generation of text 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