

Course Information / *Ngā Whakamārama* - 2022

BIOL 383

Behavioural Ecology

0.125 EFTS 15 Points

Semester 1

Description/ *Whakamahuki*

The adaptive significance of behaviour, with an emphasis on the relationships between ecology, evolution and behaviour. Behavioural ecology is the study of the evolution of behaviour and this course covers both the theoretical basis of behavioural ecology as well as practical skills in studying animal behaviour from an evolutionary perspective.



Course Coordinator / *Kairuruku Akoranga*

Prof. James Briskie

Lecturers / *Pūkenga*

James Briskie: Biology 435 Jim.Briskie@canterbury.ac.nz

Ximena Nelson: Biology 336 Ximena.Nelson@canterbury.ac.nz

Lectures: Please note that all lectures start on the hour. Labs are held in West 433 (though some lab-work may be in the field) and begin during the first week of term. Attendance to lab one is *required*, as it forms the basis for all labs.

Please check timetabling to confirm lecture and lab times and locations.

<http://www.canterbury.ac.nz/theuni/timetable/>

Students should also note that in the Science Faculty that the average student is responsible for approximately 4.5 hours of additional study for each hour of lecture at the 300-level.

Textbooks

There are a large number of textbooks in Animal Behaviour written over the last decade and all are useful sources of additional and background reading. Copies of most of these are available in the library. A couple of useful textbooks are:

Goodenough, J., McGuire, B. & Jakob, E; Perspectives on Animal Behaviour, 3rd Edition; 2010. Wiley.

Rubenstein, D.R. & Alcock, J. Animal Behaviour, 11th Edition, 2018. Sinauer.

Note that additional readings from the scientific literature, which will be placed on Learn, will be required as further background reading.

Prerequisites

Either BIOL 271 or BIOL 272, and BIOL 209 or equivalent preparation in statistics.

Assessment / *Aromatawai*

Assessment	Due	Weight (%)
Grant application	6 May 2022	20
Oral presentation of project	Week 6 (term 1)	10
Poster presentation of project	31 May 2022	20
Final Exam	TBA	50

Assessments during term time will include the submission of a grant application, and two presentations based on an independent research project. The grant application will require the student to propose and justify a novel research project, including a review of the background literature, objectives of proposed project, and proposed methods. The independent research project requires the student to undertake a novel research project and report on the results of the project, both as an oral presentation and as a poster. The oral presentation is given during the last week of term 1 (during lab time), while the poster is presented near the end of term 2. Note that to pass the course, all assignments must be completed. See below if you are sick and cannot complete an assignment by the due date. Note that the School has minimum grades that must be achieved in both the “in term” assessments and the final exam in order to pass the course (see rules and regulations below). For this course, the “in term” work comprises the grant application, the oral presentation and the poster presentation. You must complete all of these assignments and obtain at least 40% to pass the course. A student must also obtain at least 40% on the final exam, and 50% overall, to pass the course.

Final Exam: date and time to be announced. The exam is 3 hours in duration. Some exams from previous years are available on Learn.

What is expected in assessments?

The expectations for assessment items relate to the learning outcomes above. A general marking rubric is as follows:

- A to A+ Evidence that the student has developed an individual conception of the subject from wide reading and reflection. This individual understanding will likely be applied to a novel situation.
- B+ to A- Evidence of strategic reading from a few sources, and the ability to present lecture content in the student’s own words.
- C to B Reproduction of lecture content following the structure used by the lecturer.
- D to C- Reproduction of some lecture content without clear structure.
- E Confusion of content or no meaningful content presented beyond knowledge that would be expected at the start of the course.

Goals of the Course

The objectives of the course are to develop an understanding of:

- the evolution and adaptive significance of behaviour
- how behavioural ecologists approach the study of behaviour
- how to study the evolution of behaviour through experiments and the comparative method

Course content / *Hōtaka* (these are indicative and may change)

- Darwinian approaches to animal behaviour
- Levels of natural selection
- Biological altruism and kin selection
- Sexual selection

- Sperm competition and mate choice
- Evolution of mating systems and parental care
- Brood parasitism
- Predation and antipredator adaptations
- Animal cognition and learning
- Animal 'personality'
- Animal navigation
- Life history evolution
- Conservation and behavioural ecology

Graduate Profile / *Āhuatanga Taura*

This course will provide students with an opportunity to develop these UC Graduate Attributes (GA) and Kaupapa (K) (www.canterbury.ac.nz/study/graduate-profile/students/what-are-the-graduate-attributes/):

- GA1 Critically competent in a core academic discipline
- GA2 Employable, innovative and enterprising
- GA3 Biculturally competent and confident: K1 A process of self-reflection on the nature of 'knowledge' and 'norms,' K6 Other indigenous models of development, learning and behaviours, K7 Application of bicultural competence and confidence in a chosen discipline and career
- GA5 Globally aware

Learning Outcomes / *Hua Akoranga* and Associated Assessment / *Aromatawai*

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

- Understand the theoretical basis of animal behaviour from an evolutionary perspective and to use this knowledge to propose novel hypotheses to explain the evolution of animal behaviour (*Assessment task: final exam; graduate attributes: GA1, GA2, GA5*)
- Ability of find and evaluate relevant scientific literature through use of library databases and an ability to conceptualise a scientific hypothesis and develop it in depth (*Assessment task: grant proposal and independent research project; graduate attributes: GA1, GA2, GA5*)
- Write and submit a grant application, including a review of the literature on the proposed project, the objectives to be met, and the methods to be used, including an understanding of cultural considerations in the development of a project (*Assessment task: grant proposal; graduate attributes: GA1, GA2, GA3, GA5*)
- Conduct a study of animal behaviour from the initial concept stage, through to the planning and development of a research project, the collection and analysis of data, and the presentation of the results of the study to a scientific audience (*Assessment task: oral presentation and poster presentation of independent research project; graduate attributes: GA1, GA2, GA3, GA5*)

Transferable Skills / *Pūkenga Ngaio*

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

- The preparation of a grant proposal (*Obtaining funding is a requirement in all fields of science, including behavioural ecology. In this course you will learn how to prepare a grant application in which you will request funding for a novel research project. This will involve developing skills in formulating clear objectives, preparing a concise review of the literature to support the proposal, and a detailed summary of the methods you plan to use to complete the proposed study, taking into account cultural implications of your proposed work*)

Related graduate attributes: GA1, GA2, GA3, GA5

- Designing and completing a novel research project in animal behaviour (*Students will have the opportunity to conduct a novel research project. This will involve proposing a project, detailing the project in a proposal, carrying out the collection of the data, and then the analysis and presentation of the results of the project*)

Related graduate attributes: GA1, GA2, GA5

- Preparing and giving an oral presentation of the results of their research project (*Effective communication is vital to the career of a scientist; every scientist needs to be able to communicate their findings to the rest of the scientific community and the general public,*

through oral and written skills. You will be required to present the results of your project to the class in the form of a short oral presentation).

Related graduate attributes: GA1, GA2, GA5

- Preparing and presenting a poster that they could give at a scientific conference (*The presentation of scientific results at a conference is one of the ways that scientists communicate their findings. Usually both oral presentations and poster presentations are given at conferences. The last assignment in the lab is for students to prepare a poster of their research project and present this at a formal poster presentation session to be held on campus and open to the public).*

Related graduate attributes: GA1, GA2, GA5

Feedback from 2019 Course Survey (scores out of 5)

The following issues were raised in written feedback by students at the end of the course in 2019. The responses were collated by the course coordinator and common responses scored.

Q1 - The materials provided helped me to understand what was required to succeed in this course: 4.5

Q2 - The organisation of this course helped me learn: 4.6

Q3 - I found the workload was appropriate to the level of the course: 4.1

Q4 - I found the assessments appropriate for the course: 4.2

Q5 - Where I sought feedback on my assessments, I found it helpful: 4.5

Helpful features of the course

- “All of the assignment-based activities (the oral and poster presentations and the grant proposal) were really great 'real life' activities to do that should be really helpful later on in our studies”
- “I thoroughly enjoyed the group research and the poster making and presenting”
- “Both Jim and Ximena were always available to answer questions and this was always prompt and informative”

What to change? (Action/response indicated in **bold**)

- A midcourse test will help lessen the load for the final exam. **The aim in the final exam is that of summative assessment where we want to determine how much you have learned in the totality of the course, as opposed to simply ‘forgetting’ the previous module. All assessments taken together should help in this form of learning of the subject area.**
- The grant proposal is a very large assessment and it seems strange that it is worth the same amount as the poster. **Although putting together the actual poster might seem like less work, remember that the contents of the poster are based on 6 weeks of lab work and students are also being graded on their efforts and work put into the project.**

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

[updated 3 April 2020]

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

What do I do if I have to miss something or if my performance was impaired?

If you feel that **illness, injury, bereavement or other extenuating circumstances beyond your control** prevented you from completing an item of assessment 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 will also need to 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 assessment – they do not excuse you from doing the assessment within a reasonable time agreed with the course coordinator. You should expect to be required to submit additional work if you miss a major assignment (e.g., a field trip for which a major write-up is required).

You should also apply for Special Consideration if you are not able to complete an assessment or attend a field trip because of **involvement in international or national representative sport or cultural groups**. Please review the Special Considerations policy, because very few kinds of activities will be eligible for such consideration (e.g., holiday trips, birthday parties, etc. are not given special status in the University policy).

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.

Plagiarism

It is essential 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, or 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 about what plagiarism is, seek advice.

It is a School policy that courses may request 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 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), unless directed

otherwise by the course coordinator. 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>). In addition, you may also be asked to submit your work electronically (via Learn) for analysis in *Turnitin*.

Marked assignments 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. **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 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.

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) 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