School of Biological Sciences
Te Kura Pūtaiao Koiora

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Course Information/ *Ngā Whakamārama* – 2023

BIOL210
Vertebrate Biology

0.125 EFTS 15 Points
Semester 2 Terms 3 & 4 (Note: the labs for this course runs for six weeks only in term 3)

General Course Description / *Whakamahuki*
This course focuses on the biology and evolution of the phylum Chordata and in particular the subphylum Vertebrata, animals with backbones. The course gives an overview of the phylum, highlighting form and function, and reviews information on evolutionary relationships between the major extant and extinct groups.

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Goals of the Course
The course aims to introduce students to the phylum Chordata – animals with backbones. It will provide information on the phylogenetic relationships of the different groups that comprise the phylum, and demonstrate how evolutionary processes have shaped this major group of animals.

Course content/ *Hōtaka*
Lectures include:
- Origins of the phylum Chordata
- Life in the sea – origins and radiations of the fishes
- Movement onto land – the emergence of the tetrapods
- Locomotion – swimming, walking, flying
- Dinosaurs and other reptiles
- Birds and mammals – successful homeotherms
- Extinction and the future of the vertebrates

Learning Outcomes / *Hua Akoranga* and Associated Assessment / *Aromatawai*
As a Student in this Course, I will develop the ability:
Students will:
- Have knowledge about the different classes within the phylum and their phylogenetic relationships (assessment tasks: lab reports, lab exam and final exam; *Critically competent*)

- Have knowledge of the chronology of the emergence of different groups of vertebrates, and key events in their evolution (assessment tasks: lab reports, lab exam and final exam; *Critically competent; Globally aware*)
- Understand the role of extinction events in shaping the diversity of vertebrates (assessment tasks: final exam; *Critically competent; Globally aware*)
- Have detailed knowledge of the anatomy of vertebrates, and how form relates to function in an evolutionary context (assessment tasks: lab reports, lab exam and final exam; *Critically competent*)
- Have detailed knowledge of the identifying features of vertebrates (assessment tasks: lab reports, lab exam and final exam; *Critically competent*)
- Have detailed knowledge on the diversity of vertebrates in New Zealand, their evolutionary history and how they have been affected by human settlement (assessment tasks: lab reports, lab exam, final exam; *Critically competent; Biculturally competent and confident; Globally aware*)
- Be able to use the library to find research material and to use that information to write essays (assessment tasks: essay; *Critically competent; employable, innovative and enterprising*)

Transferable Skills / *Pūkenga Ngaio*
As a Student in this Course, you will develop the following skills:
- An ability to dissect a range of vertebrate animals, and thus have the technical knowledge and skills to examine the internal anatomy of any animal (*Critically competent; Employable, innovative and enterprising)*
- Synthesising information from primary literature (*Critically competent; Employable, innovative and enterprising)*
- Writing a report on findings. Communication of science is fundamental to its use and advancement (*Critically competent; Employable, innovative and enterprising)*
- An understanding of the diversity of the New Zealand vertebrate fauna and how it arose (*Critically competent; Biculturally competent and confident)*

Timetable
Lectures:
Times and locations of lectures may change at short notice. Please monitor the University web site for up-to-date information.
At the time of writing lectures were scheduled for:
Tuesdays 11 am - 12 noon
Thursdays 12 noon - 1 pm

Labs:
There will be two lab streams: one on Tuesdays (12 noon – 3 pm) and one on Wednesdays (10 am - 1 pm). Check the Course Information System to confirm the details of times. All labs will be held in the West Building (room 505) and run for 3 hours each day.
The labs run for the **six weeks of term 3 only**. There are two themes to the labs:
Dissection: We will dissect a teleost fish, a toad and a pigeon (3 labs). You will need dissecting gear (some gear is available in the lab). Lab coats are required.
Phylogeny: This will be covered using a series of 3 demonstration labs (amphibians and reptiles, birds, and mammals). Students are required to complete a workbook associated with each demonstration lab; these are each worth 5% of your final grade (15% in total). Lab coats are required.

Assessment / *Aromatawai*

Review essay	15%
Lab workbooks	15%
Practical Test	20%
Final Exam	50%

Details of the literature review essay and instructions are available in a separate handout that that can be found on the Learn site. The hand in date for the essay is **Friday 13 October 2023**.

Laboratory work will be assessed by means of a 1.5 h practical test which will be held on **Wednesday 13 September starting at 5.30 pm or earlier if possible**. Date and time will be confirmed during the course. As lab assessment is through (1) workbooks that are submitted for marking and (2) a lab test you need to ensure that you are working effectively throughout the entire 6-week lab period. Use the demonstrators to help you and feel free to show any work to the lab supervisor. Avoiding labs is not good practice. The test will examine material that you have encountered during the lab periods, so you need to attend the labs and study the material. It is very difficult trying to revise for a practical exam if you have not done the practical work. If you miss a lab due to illness, contact the course coordinator to see if you can complete the lab during an alternative lab slot.

Textbooks
The course has a single textbook (Pough F.H. *et al.* Vertebrate Life 9th or 10th edition) and lectures are based around this text.

Pre-requisites: BIOL113

Feedback from 2019 Course Survey (scores out of 5)

The following scores were obtained in feedback by students at the end of the course in 2019.

Q1 - The materials provided helped me to understand what was required to succeed in this course: 4.4
Q2 - The organisation of this course helped me learn: 4.53
Q3 - I found the workload was appropriate to the level of the course: 4.57
Q4 - I found the assessments appropriate for the course: 4.43
Q5 - Where I sought feedback on my assessments, I found it helpful: 4.37

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 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