UNSW Course Outline

BIOS3601 Advanced Field Biology - 2024

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General Course Information

Course Code : BIOS3601
Year : 2024
Term : Term 1
Teaching Period : T1
Is a multi-term course? : No
Faculty : Faculty of Science
Academic Unit : School of Biological, Earth and Environmental Sciences
Delivery Mode : In Person
Delivery Format : Standard
Delivery Location : Kensington
Campus : Sydney
Study Level : Undergraduate
Units of Credit : 6

Useful Links

Handbook Class Timetable

Course Details & Outcomes

Course Description

An advanced practical training in diversity, systematics, biology and identification of terrestrial animals and plants. The course is run principally as an intensive one (1) week course at Smiths Lake Field Station. Students will receive theoretical and practical training in current methods of

trapping, collecting and identifying animals and plants, estimation of population size, biodiversity, the conduct of animal surveys, and data analyses. The course coverage will include both vertebrate and invertebrate animals and plants.

This course involves a compulsory field trip that will incur personal costs to students

Assumed knowledge: BEES2041 and familiarity with principles of systematics

Note: Enrolment available to students in Advanced Science, with unfilled places available to students in Environmental Science, Biological Science and Ecology Majors with a credit average.

Course Aims

The course aims to:

1) Provide skills and knowledge in ecological research, including posing research questions, designing experiments and collecting and analysing data for a range of animals and plants and;

2) Provide understanding of issues in experimental design and sampling;

3) Develop skills in field observation, data analysis and presentation of findings in presentations and reports.

Relationship to Other Courses

Assumed knowledge BEES2041 and familiarity with the principles of systematics

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information
CLO2 : Generate scientific hypotheses to address research questions
CLO3 : Undertake ecological experiments in the field, including study and sampling design, collection of data, data analysis, and interpretation of results
CLO4 : Communicate independent scientific research in both written and oral formats

Course Learning Outcomes	Assessment Item
CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information	• Field Report • Natural History project • Research presentation • Independent project report
CLO2 : Generate scientific hypotheses to address research questions	• Field Report • Research presentation • Independent project report
CLO3 : Undertake ecological experiments in the field, including study and sampling design, collection of data, data analysis, and interpretation of results	• Field Report • Research presentation • Independent project report
CLO4 : Communicate independent scientific research in both written and oral formats	• Natural History project • Field Report • Research presentation • Independent project report

Learning and Teaching Technologies

Moodle - Learning Management System

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Field Report	40%	
Natural History project	10%	
Research presentation	10%	
Independent project report	40%	

Assessment Details

Field Report

Assessment Overview

Each student is required to write a scientific report with Introduction, Methods, Results and Discussion using one of the data-sets collected during the field trip. This report is written in the style of a paper submitted to a scientific journal.

Feedback: marks and comments from the course convener, academic staff and demonstrators will be provided via Moodle or in written comments on hard copy assignments

Course Learning Outcomes

- CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information
- CLO2 : Generate scientific hypotheses to address research questions
- CLO3 : Undertake ecological experiments in the field, including study and sampling design, collection of data, data analysis, and interpretation of results
- CLO4 : Communicate independent scientific research in both written and oral formats

Detailed Assessment Description

You are required to provide a scientific report with Introduction, Methods, Results and Discussion using one of the data-sets collected during the AFB field trip. Your choice of the field course module to report on can be made in consultation with AFB staff. The Introduction should provide a brief background on the subject studies with reference to previous literature. The methods can include details of sites surveyed, field measurements, observations and statistical techniques used. Results should include a statistical analysis of the data graphs and/or tables. The discussion should provide an overview of the results in light of published literature on the subject. You are required to cite the literature you use in your Field Report. **Due Date: Week 7, Monday 29th March 4pm. Word limit 1500 words excluding abstract.**

Natural History project

Assessment Overview

Students undertake a natural history study of any organism or taxa of thier choosing in any medium they choose. The study can be (but is not limited to) a collection of photographs, a herbarium, a seed collection, a pinned insect collection, a shell collection, a series of line drawings, painting/s, a film, a detailed list of sightings, or musings.

This task assesses students' ability to make observations of organisms and record those

observations

Feedback: marks and comments from the course convener, academic staff and demonstrators will be provided via Moodle.

Course Learning Outcomes

- CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information
- CLO4 : Communicate independent scientific research in both written and oral formats

Detailed Assessment Description

Being able to make observations of organisms and record those observations are fundamental skills for field biologists because this is how new insights and hypotheses are often generated. However, the making of observations without actually quantifying those observations is not necessarily science and frequently falls into the realm of "natural history". While natural history is not science, most successful field biologists are skilled natural historians whose honed powers of observation have enabled them to obtain new insights or facilitate the development of quantitative approaches to test hypotheses. Indeed, the modern fields of ecology, zoology and botany stem from the writings and observations of 19th century natural historians including Darwin, Wallace and Banks. Even today there are many gifted natural historians whose skill in the bush and knowledge of their subject means that they, not scientists, are the foremost experts in their fields of study.

Your task for this assessment is to be a natural historian in its true sense. We are asking you to undertake a natural history study of any organism or taxa of your choosing in any medium you choose. Your study could be (but is not limited to) a collection of photographs, a herbarium, a seed collection, a pinned insect collection, a shell collection, a series of line drawings, painting/s, a film, a detailed list of sightings, or musings.

Your natural history study needs to be curated (themed) in such a way that it provides a study that could be for example, taxonomic (i.e. species identifications or a classification of organisms), biogeographical (the organisms of a particular location), ecological (a description of organisms' interactions with their environment and other species), behavioural or even perhaps spiritual. Feel free to discuss your inspirations with AFB staff.

Assessment

Your natural history study will be assessed on its presentation, the curation and documentation of the study i.e. is there a structured theme, taxonomic catalogue or habitat catalogue that

provides observational insight.

Due date Week 8, Wednesday 3rd April, 4pm, Please submit your assignment directly to Professor Letnic's (Rm 110 Samuels Building or m.letnic@unsw.edu.au)

Show and tell exhibition: Week 8, Thursday 4th April, 2-5 pm Alan Wilton Tea Room, Rm 113 Samuels Building

Research presentation

Assessment Overview

Each research group will make a brief presentation of their group project that was undertaken during the term. The presentation should include the research question, approach and methods, results and discussion of the findings.

Feedback: marks will be released on Moodle, comments will be provided by the course convener, academic staff and demonstrators during the workshop

Course Learning Outcomes

- CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information
- CLO2 : Generate scientific hypotheses to address research questions
- CLO3 : Undertake ecological experiments in the field, including study and sampling design, collection of data, data analysis, and interpretation of results
- CLO4 : Communicate independent scientific research in both written and oral formats

Detailed Assessment Description

There will be a final presentation of the group project (see next page), worth 10% of the marks for the course, to be held during week 10. Each group will make a brief (~8 minute) powerpoint presentation of their research question, approach and methods, results and discussion of the findings. The presentations will occur in the scheduled Thursday timeslot for AFB. **Due Date: Week 10, 18th April 2-5 pm** Matthews 105. The order of project presentation will done by lots.

Independent project report

Assessment Overview

Working in groups of 3-5, students undertake a field sampling exercise to answer a basic question in biology/ecology and write a report on the results in the format of a scientific paper. Students will use skills obtained during the field trip in terms of understanding methods and problems in field sampling. Each student will then write up their own report on the data, written in

the style of a paper submitted to a scientific journal.

Feedback: marks and comments from the course convener, academic staff and demonstrators will be provided via Moodle or in written comments on hard copy assignments

Course Learning Outcomes

- CLO1 : Describe and apply sampling methods for a range of aquatic animals and plants, and develop powers of observation and recording of biological information
- CLO2 : Generate scientific hypotheses to address research questions
- CLO3 : Undertake ecological experiments in the field, including study and sampling design, collection of data, data analysis, and interpretation of results
- CLO4 : Communicate independent scientific research in both written and oral formats

Detailed Assessment Description

You are required to undertake a field sampling exercise to answer a basic question in biology/ ecology and write a report on your results in the format of a scientific paper. You will be using skills obtained during the field trip in terms of understanding methods and problems in field sampling. The introduction should use literature to set the context for the research question being addressed. It will help if you find a paper you like from a good journal and model your report on the style and structure.

Working in groups of 3-5 you will undertake the research into the best method, clearly define your question, undertake necessary sampling and analyse the data. Each person will write up their own report on the data which will be worth 40% of the final mark, but group work is encouraged for all other aspects of the project. Sample questions are provided but please discuss other options with us at Smiths Lake.

Due Date: Week 10, 19th April, 4pm, Word limit: 2000 words excluding abstract.

General Assessment Information

Grading Basis

Standard

Course Schedule

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
	Mike Letnic					No	Yes

Other Useful Information

Academic Information

Upon your enrolment at UNSW, you share responsibility with us for maintaining a safe, harmonious and tolerant University environment.

You are required to:

- Comply with the University's conditions of enrolment.
- Act responsibly, ethically, safely and with integrity.
- Observe standards of equity and respect in dealing with every member of the UNSW community.
- Engage in lawful behaviour.
- Use and care for University resources in a responsible and appropriate manner.
- Maintain the University's reputation and good standing.

For more information, visit the UNSW Student Code of Conduct Website.

Academic Honesty and Plagarism

Referencing is a way of acknowledging the sources of information that you use to research your assignments. You need to provide a reference whenever you draw on someone else's words, ideas or research. Not referencing other people's work can constitute plagiarism.
Further information about referencing styles can be located at https://student.unsw.edu.au/referencing

Academic integrity is fundamental to success at university. Academic integrity can be defined as a commitment to six fundamental values in academic pursuits: honesty, trust, fairness, respect, responsibility and courage. At UNSW, this means that your work must be your own, and others' ideas should be appropriately acknowledged. If you don't follow these rules, plagiarism may be detected in your work.
Further information about academic integrity, plagiarism and the use of AI in assessments can

be located at:

- The Current Students site,
- The ELISE training site, and
- The Use of AI for assessments site.

The Student Conduct and Integrity Unit provides further resources to assist you to understand your conduct obligations as a student: https://student.unsw.edu.au/conduct

Submission of Assessment Tasks

Penalty for Late Submissions

UNSW has a standard late submission penalty of:

- 5% per day,
- for all assessments where a penalty applies,
- capped at five days (120 hours) from the assessment deadline, after which a student cannot submit an assessment, and
- no permitted variation.

Any variations to the above will be explicitly stated in the Course Outline for a given course or assessment task.

Students are expected to manage their time to meet deadlines and to request extensions as early as possible before the deadline.

Special Consideration

If circumstances prevent you from attending/completing an assessment task, you must officially apply for special consideration, usually within 3 days of the sitting date/due date. You can apply by logging onto myUNSW and following the link in the My Student Profile Tab. Medical documentation or other documentation explaining your absence must be submitted with your application. Once your application has been assessed, you will be contacted via your student email address to be advised of the official outcome and any actions that need to be taken from there. For more information about special consideration, please visit: https://student.unsw.edu.au/special-consideration

Important note: UNSW has a "fit to sit/submit" rule, which means that if you sit an exam or submit a piece of assessment, you are declaring yourself fit to do so and cannot later apply for Special Consideration. This is to ensure that if you feel unwell or are faced with significant circumstances beyond your control that affect your ability to study, you do not sit an examination

or submit an assessment that does not reflect your best performance. Instead, you should apply for Special Consideration as soon as you realise you are not well enough or are otherwise unable to sit or submit an assessment.

Faculty-specific Information

Additional support for students

- The Current Students Gateway
- Student Support
- Academic Skills and Support
- Student Wellbeing, Health and Safety
- Equitable Learning Services
- UNSW IT Service Centre
- Science EDI Student Initiatives, Offerings and Guidelines