



Enhancing your degree

BSc Honours

(Marine Science and Management 400)

(Zoology 400)

A Guide

School of Environmental & Rural Sciences

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Introduction

The Honours degree has traditionally provided a preliminary training in research for students intending to go on to a research higher degree or a career involving research, teaching and/or management. However, it offers far more than that because it allows students to focus in considerable detail on a project of their own choice. You are encouraged to display independence and initiative, while at the same time gaining advice and support from your supervisory team. It is a challenging but rewarding year, which provides excellent training in organization and self-discipline, which are required in many fields of endeavour.

The Honours degree in the Bachelor of Science is offered to allow BSc and BEnvSc graduates to undertake a fourth year of study with a major component involving a research project in pure and/or applied science. This booklet provides information on the Honours course in Marine Science and Management, and Zoology.

Honours is a challenging year, and exposes students to the rigours of research, including planning, fieldwork, data analysis, presentation and communication of results. The degree is offered internally, involving full-time study over two semesters. Honours can also be undertaken externally, either full-time, or part-time over two years with the agreement of the supervisor(s). It is also possible to start mid-year to take advantage of the summer growing/activity season. Suggested projects are listed below, but you are strongly encouraged to suggest your own topic and develop this with a supervisor.

Requirements of the Honours degree

You may be accepted into the Honours degree if you have achieved a Credit average or better in relevant third year units, and have reached agreement with a staff member willing to supervise you working on a specific project.

The primary requirement is to perform well in conducting the research project and writing the thesis. You are also required to complete satisfactorily two items of written work (usually essays or literature reviews or a scientific paper on key aspects of your research work). Near the completion of your thesis, you will be assessed on an oral seminar about your findings. You must also prepare an introductory seminar on your research plan to obtain feedback and advice from the audience, but this is not assessed and is aimed to help you plan your experimental work. Finally, you may be required to undertake a short statistics course and complete the associated tutorials.

It is important to note that the Honours year is different from your previous undergraduate studies. The Honours year, particularly with respect to the research project, is less structured, more informal and **you are responsible for time-management** (e.g. deadlines for assignments). **Honours students are also responsible for maintaining regular contact throughout the year with their Supervisor(s) and Honours Coordinator**, as various matters arise with respect to changes in e.g. seminar schedules, time-off for medical reasons or vacation etc.

Honours students are required to attend the research seminars in their discipline. Students are also strongly encouraged to participate in the postgraduate conference held by the School (usually mid-year). Finally, a significant part of the learning process is via informal contacts with fellow Honours students, postgraduate students and academic staff other than the immediate supervisor. Students are therefore encouraged to come to morning and afternoon tea in the appropriate common rooms, where the relaxing atmosphere is conducive to informal discussions.

Financial Support for Research

Each student will receive \$1,500 to support his/her research project, for instance for travel into the field, for minor items of equipment, and research materials. The grant is managed by the School Resource Office, and the supervisor will discuss with the student early in their candidature how funds are to be used. Your supervisor will also advise on the correct procedures for accessing funds and purchasing materials. Access to photocopying and printing facilities will be made available via an individual access code. The cost of preparation of the thesis is the responsibility of the student, but note that computer facilities are available in the School. Honours students often have the opportunity to attend national and occasionally international conferences in their field and may receive some support to do so.

Occasionally, Honours scholarships or additional funding may be available for specific projects. Supervisors also may know where additional funds may be sought, and applying for such funds is a valuable experience for Honours students.

Assessment of the Honours tasks

Assessment weighting is normally as follows:

Research Thesis	70%
Literature Review	10%
Research seminar	10%
Essay or Paper	10%

There is, however, some flexibility in the program to take advantage of other opportunities that may occur.

The thesis is usually marked by other academics in the discipline area and preferably at least one examiner external to the University. Supervisors may also provide comments on the final thesis. Other work will be marked by at least two internal markers, and the assessment of the Honours seminar takes into account written comments made by the audience. If marks vary by more than 10% for the thesis then a third examiner may be appointed.

Supervisors will indicate the amount and type of assistance provided during the year so that the originality and initiative shown by the student can be demonstrated. This is very important in the assessment process because a First Class thesis may be distinguished by a high level of originality from a thesis written equally well but where the supervisor played a much greater role in guiding the work. Do not take this to mean that you should not consult your supervisor but expect that your initiative and original approach to the project will be taken into account by the markers of the thesis.

The Research Project/Thesis

The aim of the research project is to introduce the student to original scientific work. The student, in conjunction with his/her supervisor, should develop a realistic research project and plan, given the restraints of time, funding and availability of infrastructure. It is important that individuals develop the habit of checking the library and electronic database to identify the relevant scientific papers and related published materials (reviews, textbooks etc). Many journals are now available only in electronic format. Some articles may need to be borrowed from other libraries.

The thesis must be produced by a suitable word-processing software package and care taken in the presentation and grammar. Your supervisor is expected to comment on the first draft and sufficient time (at least two weeks before the due date of thesis submission) should be given

for appropriate feedback from the supervisor. Remember that a first draft, particularly the Results and Discussion, should be in such a form that the supervisor has all the necessary information to make constructive suggestions. *The final version of the research thesis is the student's responsibility.*

The following guidelines should be noted:

Length: Generally 50 to a maximum of 100 pages (A4 paper, 12 point font, 1.5 or double-spacing, including figures, tables & references).

General layout of thesis:

Title page

Signed declaration by student

Table of Contents

Summary, ideally one A4 page

Introduction & Literature Review

Methods

Results, including relevant figures, tables & graphs

Discussion & Conclusions

List of References

Appendices (e.g. supplementary data not included in the Results)

It is also permissible to produce a thesis with self-contained data chapters (i.e., each containing an introduction, methods, results, discussion) together with a general thesis introduction and a unifying conclusion. You should consult copies of previous Honours theses for further guidance as to thesis layout.

Three softbound copies of the thesis are to be submitted to the School Office before 4pm on the thesis submission date. After examination, two copies will be retained by the School (one will be kept in an appropriate library, the other will be the supervisor's copy) and the third returned to the student.

There are penalties for late submission of assignments and Faculty policy will apply. See the following URL:

- <http://www.une.edu.au/arts-science>

Academic Staff and Research Interests

For specific projects please contact staff.

Also check <http://www.une.edu.au/ers/honours-zoology.php> for additional projects.

Dr Nigel Andrew, Lecturer

Email: nigel.andrew@une.edu.au

Research Interests

• insect herbivores and herbivory • potential impacts of climate change on insect interactions, physiology & behaviour • insect community structure along environmental and evolutionary gradients • tri-trophic interactions (plant: insect herbivores: predators & parasitoids)

Dr Stuart Cairns, Lecturer

Email: scairns@une.edu.au

Research Interests

population dynamics • resource allocation • habitat utilisation macropod • marsupial ecology experimental ecology

Professor Hugh Ford,

Email: hford@une.edu.au

Research Interests

• ornithology • behavioural ecology of woodland and forest birds • conservation biology in rural landscapes • biology of honeyeaters • ecology and conservation of coastal wetland birds

Professor Fritz Geiser

Email: fgeiser@une.edu.au

Research Interests

• physiological ecology of animals; energetics in mammals, birds, lizards and invertebrates • thermoregulation in mammals, birds and reptiles • hibernation and torpor in mammals, birds and lizards • dietary lipids

Associate Professor Steve Smith

Email: ssmith@nmsc.edu.au

Research Interests

• marine and estuary ecology • natural spatial and temporal variation • human impacts • conservation and management • biogeography • ecological processes

The Honours Coordinator

The Coordinator is responsible for:

- providing general advice on how to contact potential supervisors, develop possible projects and enrol,
- collating research interests and, where possible, potential Honours projects offered by staff of the School,
- arranging venues and times for Honours research seminars,
- providing the specific program for each student,
- arranging marking of theses and other assignments, collating assessment results and coordinating the final grading of the Honours year.

Students experiencing personal problems with their supervisors may discuss matters with the Honours Coordinator, but most technical issues with the project should be dealt with by the relevant supervisor.

The Honours Coordinator is Professor Hugh Ford Room ??, Zoology Building. His email is hford@une.edu.au and phone is 02 6773 2376.

The Supervisor(s)

By signing the agreement to supervise the research project, the supervisor confirms that appropriate guidance and facilities will be provided to the student. Guidance on methods and field sites should be provided, and the supervisor(s) should ensure that the student knows how to use equipment properly and safely. The supervisor should ensure that the student is aware that suitable permits must be obtained for work on native flora and fauna and in National Parks or State Forests, and for some other experimentation involving animals (see later). Work on private property should also be approved by the land-owner, preferably in writing.

The supervisor(s) will endeavour to ensure that the student maintains satisfactory progress on the research and may wish to suggest that the student provides a timetable or research plan to assist this progress. Progress reports and drafts should be read and annotated as rapidly as possible. Serious problems with the project or student should be discussed with the Honours Coordinator as soon as possible, and a contingency plan for unforeseen circumstances should be submitted after discussion with the student.

The supervisor(s) will consult with the student to produce a program of the other assessable tasks, their deadlines and their percentage of the final assessment for submission to the Honours Coordinator. An example is given below:

The Student

It is the student's responsibility to confirm a research project and a willing supervisor prior to enrolment in the degree. The student is then expected to develop the project from an idea or an outline provided by the supervisor(s). The supervisor may ask the student to write a research plan and develop a timetable or budget for the project. Regular communication between the student and supervisor about the progress of the research is essential. Although the student is responsible for the day-to-day running of your project, experience of the supervisor is likely to be invaluable when deciding upon study sites, methods and appropriate analyses of results. It is the student's responsibility to regularly consult with their supervisor and organize suitable times for meetings.

Students are also responsible for administration of the project and the program of study. For example, the student must ensure that all work is handed in by the due deadline, and that drafts are fieldwork (A8, OH&S forms) must be completed before the fieldwork is undertaken and submitted through the supervisor to the School Resource Office. The student is also responsible for ensuring relevant permits are obtained before work commences. Students should not be reticent about organizing meetings to discuss their work, concerns, or future plans with the supervisor. It may also be useful to discuss research issues with other academic staff if they can help.

Criteria for assessment of Honours Thesis

1. SUBJECT CONTENT

- adequacy of candidate's understanding of concepts
- thorough, critical review of previous research and key papers
- clear statement of why research was undertaken, put in context
- clear statement of hypotheses

2. COMPETENCE IN RESEARCH

- level of scientific rigour gauged from description of approach
- methods of survey and experimental design

- analysis of results
- interpretation and discussion of results
- adequacy of discussion of project limitations and contribution to the field

3. PRESENTATION

- organization and presentation of the work
- clarity of writing style
- referencing and graphics

Honours Grading System

There are four classes of Honours. Although the main assessment is based on the thesis, these criteria apply equally to other items of work:

First Class (I) indicating an overall mark equal to or exceeding 85%. A First Class Honours degree demonstrates that the student has excellent potential for independent research and would be strongly supported in an application for a higher degree and for a scholarship application. A first-class thesis would be free of major faults, demonstrate

originality and skills in planning, analysis and execution of a logical research plan, and would be written clearly and succinctly. It would also illustrate the scientific and/or applied relevance of the project work.

Second Class, Division 1 (II-1) indicating an overall mark of 75-84%. This indicates a very competent student who has potential to proceed to a higher degree but would need appreciable guidance to meet the required standards. A II-1 thesis would exhibit a thorough understanding of the research issue and a professional or original approach to its resolution. Research design and analyses would be good, presentation clear, and errors of fact and style minimal.

Second Class, Division 2 (II-2) indicating an overall mark of 65-74%. This implies the student is capable of proceeding to a Master's degree but would need considerable further development before commencing a PhD. Such a thesis is competently written but contains some inadequacies in scope, content, presentation, data analysis or understanding of the topic.

Third Class (III) indicating an overall mark of 50-64%. A student awarded this grade would not be encouraged to seek a higher degree. Thesis work may indicate much effort but suffer inadequacies in scope, content, presentation, data analysis or understanding of the topic. If the

overall mark is <50%, the student has failed the degree and the thesis contains serious inadequacies in some or all areas.

Seminars

The *Introductory Seminar*, to be presented early in the semester will consist of an outline of the background, aims and methodology of the proposed research project. Students should speak for 15 min including 2-3 min for questions. The supervisor is expected to assist with the preparation of the first seminar and the student should plan a trial presentation to the supervisor.

The *Final Seminar*, to be presented towards the end of the second semester, will be assessed and will consist of a brief reminder of the Aims, Methods, Results and Conclusions from the research project. Students should speak for 15-20 min including 5 min for questions. The supervisor is expected to have input only in one trial presentation *but the final presentation is the responsibility of the student*. Both seminars should be presented in Powerpoint or similar format.

Written Assignments

The essay (where applicable) will be on a topic not directly related to the research project but appropriate to the discipline. The supervisor will set the essay topic. The aims of the essay are to encourage critical reading and in-depth understanding of a selected topic and thus evidence of extensive reading, particularly of up-to-date material, is required.

The essay should be on A4 paper, double-spacing with 12-point fonts. The length of the essay should be 3000 words, excluding list of references. Two copies of the essay should be submitted to the supervisor by the due date. Two members of academic staff will mark the essay. Feedback will be given to the student by the examiners, including the allocated mark.

If appropriate the supervisor will advise on the nature of the Literature Review required. In general, two academic staff members will mark the Literature Review and appropriate feedback will be provided to the student.

Deadlines

The time taken to complete work is as important as its quality. Therefore, extensions of time to complete assessment tasks will be granted only because of serious personal problems (e.g., medical problems evidenced by production of a medical certificate, etc) and will follow Faculty

Policy as per undergraduate units. Requests for extensions must be made to the supervisor before the relevant deadline. Failure to hand in any of the assignments will result in the Honours degree being classified as a “Failed Incomplete”.

Plagiarism

Plagiarism may come in many forms and students who have plagiarized material in any work handed in for assessment for fulfillment of the Honours program will be dealt with under the Rules of the University. It is important to acknowledge all sources and assistance with any work done for this degree. Students should submit a Plagiarism Declaration Form with all items all items of assessment. This form, together with the UNE Policy on Plagiarism is available at the following web site: <http://www.une.edu.au/for/current-students/>

Experiments involving animals

Any research involving vertebrate animals must be approved by the Animal Ethics Committee (AEC). Relevant forms are available from this committee (see UNE Research WEB page) and require signatures by students and supervisors. These forms refer to trapping, release, maintenance of, and experimentation on (including observation) native, feral or laboratory animals, captive or free.

The committee meets monthly and permission must be granted before any research commences. It is the student’s responsibility to ensure these forms are filled out fully and submitted through the supervisor. Discuss carefully the requirements for the experimentation and ensure that the host Discipline has adequate facilities to house and maintain experimental animals.

Permits

Collection of material from or work in National Parks and State Forests usually requires a permit. Research of **any** sort in the National Parks needs a research permit. These should be arranged as soon as possible, and are the student’s responsibility. Permission to work on private property must also be gained, preferably in writing. Ensure that the supervisor is aware of all such arrangements and retains a photocopy of all permit applications, permits granted and written permission. In some cases, the permits will need to be obtained by the supervisor – check if this is the case.

Equipment and Travel

Use of Equipment in Research/Teaching Laboratories requires the approval of your supervisor or appropriate person responsible for care and maintenance of the equipment. It is your responsibility and that of your supervisor to ensure that you have appropriate approval in the proper use, care and maintenance of School equipment.

Appropriate travel form (A8 form) and Fieldwork Safety forms (B1 and B4 forms) need to be completed for any field trips. You should discuss any potential hazards with your supervisor, and ensure that someone knows when you are due to return from any fieldwork and what to do if you do not return on time. Forms are available from School/Centre offices and need to be signed by you and your supervisor before submission to Head of School.

Lodgement of animal vouchers

Where appropriate, the student is responsible for lodgement of animal vouchers arising from their Honours work. The vouchers must be correctly prepared and accompanied by appropriate collecting information. Your supervisor will provide advice as needed regarding lodgement of this material.

Use of University Vehicles & Boats

University vehicles may be used for research purposes, and your supervisor should be consulted for full details. Use of 4WD vehicles requires the user to pass the relevant driving test. Please refer to the University Travel Policy that is available on the following website: <http://www.une.edu.au/finance/travelnews.htm>

Students using the Marine Science Facilities should consult with Associate Professor Steve Smith on the costs and procedures for using boats, diving equipments and other related marine science equipment well before undertaking any project.

Safety & Security

There is a first aid kit on each floor of each building and you should familiarize yourself with the location of these as well as the location of the fire extinguishers. All accidents must be reported immediately to the appropriate OH&S representative or to the UNE OH&S Officer and your supervisor. It is most important that you familiarize yourself with the designated meeting point

for evacuation of buildings, e.g. in the event of a fire. In the event of the fire alarms sounding, the building must be evacuated immediately or, if appropriate, at the direction of the fire floor wardens.

Postgraduate and honours students will often need access to buildings and laboratories after hours and at weekends. Keys must be returned to the Administrative Assistant when no longer required. A \$20 refundable deposit is required on all keys issued.

Any suspicious activity after hours in buildings should be immediately reported to UNE Security on ext 2099. Notify the Administrative Assistant or Technical staff of any failures of essential services or faults. In the case of emergency where ambulance, fire, police are required dial 0 for an outside line then 000.

Procedure to apply for admission into Honours.

1. Complete and sign the application form (attached below) and give or send it to the Honours Coordinator. Remember that your proposed project must have been discussed with your potential supervisor, and they must have agreed to supervise you and the project.
2. You will also need to complete the 'Bachelor Honours Admission Application Form' from the Student Centre.
3. Once accepted but before starting the project your supervisor and you must complete the intellectual property registration form and location of data form (attached below).

Honours Application Form

This form must be submitted to the Honours Coordinator when seeking enrolment into the program.

Name in full:.....

Student Number:.....

Address and contact phone/email.....

.....

.....

Address and contact phone/email during term time.....

.....

.....

University awarding your B.Sc. and completion date.....

Name(s) of potential supervisors:.....

.....

Working title of research project:.....

.....

When will you start and will you be Full-time/Part-time Internal/External? (delete)

.....

Other relevant information:.....

.....

I have read and understood the IP policy @ <http://www.une.edu.au/research-services/ippage.html> and have completed the appropriate form which is attached to this application. I have also completed the location of data form, which is attached to this application.

Approved:

Student:..... Date:.....

Supervisor(s):..... Date:.....

Coordinator:..... Date:.....

HOS :..... Date:.....

By signing this form the student agrees to the conditions for supervision and the rules and code of conduct for the School.

UNE PROJECT INTELLECTUAL PROPERTY REGISTRATION FORM

All supervisors who have contributed to the development of IP for this work are to be listed on this form.

Section 1:

All questions in Section 1 are to be completed.

Project Name: _____

UNE School/Organisational Unit: _____

Student Researcher Name: _____ Student Number: _____

Researcher(s)/(supervisors) Name: _____

Funding agency:(if applicable) Name: _____

Section 2: Initial IP Distribution

Information in the table below need only be provided on the initial registration form; in subsequent years this information need not be provided.

IP %	Student Researcher	Researcher(s) (i.e. supervisor)	Funding agency: (if applicable)	Student's Signature	Supervisor's Signature
Attributed					

Section 3: Progress/Variations to IP Distribution (%)

You need only complete the fields in the table below that equate to your current year of candidature i.e. if you are in your first year complete the Year 1 information, if you are in your second year complete Year 2 information etc.

Attributed IP%

½ Year* * = full-time equivalent	Student Researcher	Researcher(s)	Funding agency: (if applicable)	Additional Researchers Names	Additional Researchers %	Student's Signature	Supervisor's Signature
6 mths							
1 year							
6 mths							
2 years							
6 mths							
3 years							
Over 3 years							

Section 4: Final IP Distribution (%)

This section is to be completed in the final year of candidature i.e. if you are in your completion year.

IP %	Student Researcher	Researcher(s) (i.e. supervisor)	Funding agency: (if applicable)	Student's Signature	Supervisor's Signature
Attributed					

PVC (Research & Development): _____ Date: _____

University of New England

Location of Data

Wherever possible, original data should be retained in the department in which they were generated. Data on which publications are or will be based are retained, or their location recorded, not materials. Data should be safely held for as long as readers of publications might reasonably expect to be able to raise questions that require reference to such information. This should be at least five years. Where it is impossible or impracticable to hold data, a written indication of the location of the data or key information regarding the location (e.g. the way in which the data were called up from a limited-access database), must be kept in the department. The location of the researcher's diary may be sufficient if the key information is recorded in it.

The primary data on which the paper is based are:

in the department(s) of the responsible or principal author(s)

in the following location(s)

or

no data are needed to check the conclusions of this paper.

SIGNED: _____
 responsible or principal author(s)

DATE: _____