

# DEPARTMENT OF BIOLOGICAL SCIENCES

## BIOLOGICAL SCIENCE HONOURS (BIO4000W) & MARINE BIOLOGY HONOURS (BIO4001W)

Our one-year Honours courses aim to introduce students to research and to develop an enhanced understanding of scientific theory and practice.

Queries about the course should be directed to Dr Jacqueline Bishop (Room 3.22, Pearson Building; [jacqueline.bishop@uct.ac.za](mailto:jacqueline.bishop@uct.ac.za)) or A/Prof Colin Attwood (Room 3.28, John Day Building; [colin.attwood@uct.ac.za](mailto:colin.attwood@uct.ac.za)).

### Application and acceptance criteria

- Application for admission into Honours should be done via the online UCT postgraduate studies application form (available at <http://www.uct.ac.za/apply/applications/forms/>). Note that applicants for honours are not required to submit a research proposal or outline but will be asked for a brief motivation as to why you want to pursue honours at UCT (see below).
- Students attaining an average of 70% or more in relevant third-year level science courses are normally assured of acceptance into Honours. We will, however, consider applications from all students achieving 3<sup>rd</sup> year averages of 65% or more. Places are limited on both courses.
- Note that factors other than marks may be considered when applications are reviewed, and that final acceptance into Honours is at the discretion of the Head of Department. With this in mind, applicants are asked to submit a brief statement (max. 200 words) providing any additional information (e.g. relevant work experience) which might strengthen their application, as well as the names and email addresses of two academic referees.

### Introductory session & registration

Students are requested to meet in the Pearson Building LT, on Monday 21 January 2019 at 09h00 for an introductory session. Registration is completed online. Lectures commence on Monday 21 January 2019 at 11h00.

### Compulsory general modules (21 January - 15 March)

- Material covered in these blocks is geared towards (i) introducing students to the research facilities provided by the department; (ii) development of basic research and data management skills; (iii) provision of a basic foundation in the philosophy and practice of science, (iv) development of advanced statistical and numeracy skills, and (v) development of scientific writing and presentation skills.
- The statistics module will be evaluated by an examination on **Monday 18 February. Students are required to pass this exam with 50% to continue with the Honours course.**
- Also forming part of this module are separate BIO4000W and BIO4001W weekend field-trips.
- **For students attending OTS:** your marks from the OTS module component will count in place of the compulsory general module.
- **Attendance at lectures is compulsory.**

## Research projects

- A list of potential projects will be available in the second week of the course. You are also welcome to formulate your own alternative project in consultation with an appropriate academic. Project selections are due by **1<sup>st</sup> March**.
- Project-related work accounts for **35%** of the total course mark (thesis & poster). Don't over-estimate the amount of time available to you - before you know it, the end of the year will be upon you.
- **ALL** students are required to conduct **ONE** research project, for which 12 weeks have been allocated. Projects run concurrently with modules so your time management is of the utmost importance. Module deliverables and project commitments need to be planned carefully by you.
- Projects must be supervised or co-supervised by an academic member of staff in the Department of Biological Sciences.
- For students taking BIO4001W, the project must have a clear marine focus.
- You will be required to submit a complete draft of the project write-up three weeks prior to final project report hand-in. Supervisors will provide you with feedback/suggestions for improvement, which should be addressed in the final report. Final project reports are to be submitted as two, bound hard-copies and a .pdf file.
- Both draft and final report versions will be marked (these are weighted **30% and 70%** respectively).
- A research poster suitable for presentation at a scientific conference will also be produced.
- At the end of the year each student will be required to present the results of their project to the department in a mini research symposium. This is marked by all academics present and the final mark is the average of these.

## Elective Modules and Theory Exam

- Each student is required to **complete six elective theory modules** on offer by academics in the department.
- BIO4000W students have unrestricted module choice. BIO4001W students are required to complete a minimum of four marine modules.
- Each elective module runs full-time for a period of one week, and typically requires students to read extensively and participate actively in discussions of the material covered. There will be at least one deliverable attached to each module and attendance at activities associated with the module is compulsory. Some modules may also involve a practical or field-based component. You will need to manage your time very carefully so as to balance the requirements of your research project with those of your modules.
- You need to select your modules by **Friday 1 February**.
- Each module will be evaluated according to the module coordinator, AND in a three-hour Theory Examination in November. This exam will contain one question relating to each module, of which you must answer four.
- Queries about within-module activities should be directed to the module co-ordinators.
- **Attendance at all module-related activities is compulsory.**

## Course reading

During the course students are required to read FOUR books from the following list. Book reviews will be written on three of these books, chosen from a list of elective readings. The fourth book is required reading for the course (What Makes Biology Unique by Ernst Mayr) and will be examined in the General Examination paper in November.

*Required reading (examined in November):*

What Makes Biology Unique? - Ernst Mayr (required reading for ALL students - examined)

*Options for book reviews (choice of three from list below):*

She Has Her Mother's Laugh: the Powers, Perversions and Potential of Heredity - Carl Zimmer

The Immortal Life of Henrietta Lacks - Rebecca Skloot

The Albatross and the Fish: Linked Lives in the Open Seas - Robin Doughty & Virginia Carmichael

The Serengeti Rules: the Quest to Discover How Life Works and Why it Matters - Sean Carroll

Why Evolution is True - Jerry Coyne

The Unnatural History of the Sea - Callum Roberts

Feral: Rewilding the Land, the Sea and Human Life - George Monbiot

Where the Wild Things Were - William Stolzenburg

### **Theory essay**

Students will write an essay on one of a number of topics in contemporary biology which will be provided in April. The essay topic CANNOT be linked to your project topic and supervisor/s in any way.

### **General exam**

The course has two exams, a Theory exam which covers modules (see Module section) and a General exam. The General exam will test students' engagement with and ability to write critically about general topics in biology. The prescribed book for the course will be examined as part of this exam, together with questions to test your general understanding of science and biology.

### **Assessment**

Two 3-hour examinations are written in November. Both the non-project component of the course and the project component each carry a sub-minimum of 50%.

NOTE: Each of these components must be passed separately for the award of the degree.

<b>Course Component</b>	<b>Total %</b>
Compulsory coursework	10 (Stats, digital imaging, philosophy, Darwin, data management)
Essay	5
Book reviews x3	5
Elective coursework	20
Project & poster	35
Project seminar	5
Examinations	20
<b>TOTAL</b>	<b>100</b>

### **General comments**

Honours students are expected to attend ALL departmental research seminars, and to maintain a presence in the department.

JB & CA  
January 2019