UNSW Course Outline

BIOS2500 Evolution and the Modern World - 2024

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General Course Information

Course Code : BIOS2500
Year : 2024
Term : Term 2
Teaching Period : T2
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

Evolution shaped the living world, from million-strong ant colonies to the COVID-19 virus (and all its variants), and from simple sessile invertebrates to conscious and highly cultural humans. Darwin's insight that evolution happens by natural selection remains, in the words of philosopher

Daniel Dennett, “the most important idea anybody ever had”. Unfortunately, few people ever gain more than a superficial understanding of natural selection and how evolution works. That is a pity, given the important insights that evolution provides into the most difficult and persistent problems that plague 21st Century living, including antibiotic resistance, obesity, overpopulation, income inequality, gender inequity and the ideological warfare that surround sex and family life.

There is no assumed knowledge, and this course makes a great General Education offering. We only expect that students come to class with open curiosity.

Course Aims

This course aims to expose students to the power of evolutionary thinking, and how to use it responsibly to understand modern life and the controversial issues that inhere to it. In addition to introducing the original - often counterintuitive - insights evolution provides, the course explores the relationships between evolutionary, social, cultural and economic processes.

Relationship to Other Courses

This course can be taken stand-alone, which lends it well to being taken as a General Education. There are plenty of chances for extension, however, so it can be part of any biological or other science degree.

Course Learning Outcomes

Course Learning Outcomes
CLO1 : Explain natural selection and how it works.
CLO2 : Explain how evolutionary processes and evolved traits interact with cultural, social and economic dimensions and drivers of human behaviour.
CLO3 : Combine evolutionary concepts and insights with other understandings of how behaviour develops and is expressed and apply this knowledge to understand important phenomena that impact human society.
CLO4 : Avoid the pitfalls of determinism, and the impulse to take sides in a spurious nature vs nurture dichotomy.
CLO5 : Develop skills in writing tight, engaging English prose about issues of concern to society and their relation to high-level concepts.

Course Learning Outcomes	Assessment Item
CLO1 : Explain natural selection and how it works.	• Test 1 • Final Exam
CLO2 : Explain how evolutionary processes and evolved traits interact with cultural, social and economic dimensions and drivers of human behaviour.	• Essay • Test 1 • Final Exam
CLO3 : Combine evolutionary concepts and insights with other understandings of how behaviour develops and is expressed and apply this knowledge to understand important phenomena that impact human society.	• Essay • Test 1 • Final Exam
CLO4 : Avoid the pitfalls of determinism, and the impulse to take sides in a spurious nature vs nurture dichotomy.	• Essay
CLO5 : Develop skills in writing tight, engaging English prose about issues of concern to society and their relation to high-level concepts.	• Essay

Learning and Teaching Technologies

Moodle - Learning Management System

Learning and Teaching in this course

All students attend class on Fridays from 9am to 1pm. These will comprise all the contact hours for the course: interactive instruction, discussions, workshops and tests. We will ensure there is at least one break during each week’s class.

The order of events within each week’s class may differ from that presented in the timetable.

In week 5 there will be in-person test during class. Keep an eye on Moodle for more information about the test, major assignment, and exam.

Assessments

Assessment Structure

Assessment Item	Weight	Relevant Dates
Test 1 Assessment Format: Individual	25%	Start Date: 30/06/2023 09:00 AM Due Date: Not Applicable
Essay Assessment Format: Individual	50%	Start Date: Not Applicable Due Date: 07/08/2023 11:59 PM
Final Exam Assessment Format: Individual	25%	Start Date: Exam Period Due Date: Not Applicable

Assessment Details

Test 1

Assessment Overview

You will have an opportunity to demonstrate your learning about natural selection and its application to phenomena studied in the first half of the course.

This test will likely run in or around week 5.

The assessment will give you a chance to demonstrate what you have learned in class and via online materials.

You will complete a combination of short-answer questions and longer answer mini-essays.

There will be opportunities in class (before the end of week 4) to practice the longer answer mini-essays and receive feedback on approach and technique.

Course Learning Outcomes

- CLO1 : Explain natural selection and how it works.
- CLO2 : Explain how evolutionary processes and evolved traits interact with cultural, social and economic dimensions and drivers of human behaviour.
- CLO3 : Combine evolutionary concepts and insights with other understandings of how behaviour develops and is expressed and apply this knowledge to understand important phenomena that impact human society.

Detailed Assessment Description

This test will take place in the class times in week 5. It will cover concepts learned throughout

the course to date.

It will involve hand-written answers to questions, some short-form and some involving short essays.

Further information about the format of this Test, including the content to be examined and the nature of the questions will be provided in classes and on the course Moodle site at least one week prior to the Test. There will be some chance in classes to consider strategies for answering the short essay questions.

You are being assessed on your understanding of concepts covered in lessons, workshop exercises and reading

Assessment Length

60 minutes

Assignment submission Turnitin type

Not Applicable

Essay

Assessment Overview

You will compose a short essay exploring a contemporary news story from an evolutionary perspective. You are expected to explain to a recent high school graduate who has heard of evolution but not taken a course like this one how the concept/s from evolution help to make sense of what happened in the news story or how that story was interpreted by the media and the public.

You will be assessed on how well you demonstrate understanding, explain to the reader the evolutionary concepts, and how creative, interesting and insightful your analysis of the news story/event is.

Lecturers will provide time in class to support students through the process of choosing topics, planning and writing their essays.

Course Learning Outcomes

- CLO2 : Explain how evolutionary processes and evolved traits interact with cultural, social and economic dimensions and drivers of human behaviour.
- CLO3 : Combine evolutionary concepts and insights with other understandings of how behaviour develops and is expressed and apply this knowledge to understand important

phenomena that impact human society.
- CLO4 : Avoid the pitfalls of determinism, and the impulse to take sides in a spurious nature vs nurture dichotomy.
- CLO5 : Develop skills in writing tight, engaging English prose about issues of concern to society and their relation to high-level concepts.

Detailed Assessment Description

Essay – A Contemporary News Story from an Evolutionary Perspective

Discuss how a concept from evolutionary biology provides insight into a current or recent news event. The news story or event must have appeared in the news on or after 1 June 2022. Your job is to *explain to a recent high school graduate who has heard of evolution but not taken a course like this one how the concept/s from evolution help to make sense of what happened in the news story or how that story was interpreted by the media and the public*. The evolutionary concept should have been discussed in the course; if you are not sure about the relevance of the concept please discuss in the class workshops in weeks 3 and 8.

Components

You will submit your essay via the course's online portal. Your essay will include the following. Make sure that i to iii are presented at the top of your submission before you step into the essay (iv) itself.

i. **Title** for your essay. This should be informative and attention-grabbing.

ii. Name the **key evolutionary concept** or concepts involved. Can be a single concept, or multiple.

iii. **Source material** concerning the original story (e.g. URL to a relevant news articles that drew your attention to the story) dated on or after 1 June 2022.

iv. Your **essay.** This should be written in an engaging and interesting way, using simple language and sentence structures, and well-structured paragraphs. The body of the essay should not exceed 1500 words. Use numbered references (eg. [1]) to refer to published papers, website articles, YouTube videos etc. Normally these would be hyperlinks in your article.

v. Numbered **references** (see above). Please check your numbered call-outs match your references above. You need to cite at least four academic papers.

vi. A **word count** for part iv.

Mark Breakdown

As this is a rich exercise in original writing, there is no marking rubric, only an area-based breakdown of marks. Marks will be allocated as follows:

Component	Marks
Non-essay components *(i-iii* & *v-vi* above)	5
Essay components *(iv* above)	
Your introduction of the news story	5
Argument, including teaching the evolutionary concept	20
Essay writing and style	20

You will be assessed on how well you explain to the reader the evolutionary concepts and on how creative, interesting and insightful your analysis of the news story/event is.

Your essay should include an introduction to the salient parts of the news story: the actual story being reported on, not necessarily the account that you refer to in ii, unless the account is an important aspect of your analysis. Usually (but not in every case) this introduction will fit best at or near to the beginning of the article. There are 5 marks for this specific part of the essay.

Your argument includes the account you give of the evolutionary concepts and how you explain to your reader how evolutionary knowledge makes sense of the news story. Although we are concerned with coherence and accuracy of your interpretation, we are more interested in the way you argue your case. In most cases, only further scientific research will be able to settle if your argument is correct. But if you could write an article that led to new predictions, and thus to a productive new stream of research or new angles in public debate and policy development, then you will have done a great service.

So take care in choosing the news story well. Take time to explain the relevant concepts, but make it part of the argument. Tracts quoted from textbooks, or definitions of terms do not suit an essay of this nature.

Essay Writing & Style

Your essay should be of a level you might read in *The Conversation, Slate*, or *Huffington Post.*

This is both an exercise in critical analysis and in communicating effectively. In science communication, if you don't articulate yourself well, then your ideas, no matter how excellent, will not get the readers you need. So aim to use active verbs, simple sentences, short words, and short (usually 2-4 sentence) paragraphs.

Pay attention to people, places, events, and actions. These are the elements of narrative storytelling make your essay relatable and make it clear what is really involved. *Do not* copy a journalist's narrative, but *do* quote people and describe events involved, with proper attribution of quotes to their original source, to help make your case in an interesting way. And do not cobble together a range of definitions and lists of abstract concepts.

As the writing coaches all say "Show, don't tell".

We suggest you use some of the excellent on-line tools like https://readability-score.com to assess your readability and the statistics that affect it.

To the right I provide the readability.com analysis of this section of the course description as an illustration.

Your essay will ideally be at or just below Grade 12 (Average Grade Level), with a reading ease of 50 or higher. Your average sentence length should not exceed 20, and syllables per word should be around 1.4-1.7. Meeting these recommendations will not guarantee your article is well-written, but if you are not meeting these recommendations it may be because your sentences are too convoluted, you are using jargon, or too many weak verbs like "is", "are", "was", "has" and "have". So use it as a guide to help improve your writing.

Well-written essays take time to plan, write, and edit. Spend the time necessary to turn in a well-written piece: *we expect a lot from you*. And make use of the time during workshops to ask advice on topic choice, planning and building an argument.

Assessment Length

1500 words for essay body + ancillary materials, references etc

Assignment submission Turnitin type

This assignment is submitted through Turnitin and students do not see Turnitin similarity reports.

Final Exam

Assessment Overview

You will have an opportunity to demonstrate your learning about natural selection and its application to phenomena studied in the second half of the course.

This examination is scheduled for the formal exam period and will be 2 hours in duration.

The assessment will give you a chance to demonstrate what you have learned in class and via online materials.

You will complete a combination of short-answer questions and longer answer mini-essays.

Feedback is available through inquiry with the convenor.

Course Learning Outcomes

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Detailed Assessment Description

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Assessment Length

60 minutes

Assignment submission Turnitin type

Not Applicable

General Assessment Information

See instructions on course Moodle site.

Grading Basis

Standard

Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 27 May - 2 June	Lecture	Lesson 1: Course Introduction; Natural selection & human evolution
	Workshop	Workshop: Exploring natural selection: Eat, Prey, Live
Week 2 : 3 June - 9 June	Lecture	Lesson 2: Diet and the obesity crisis
	Group Activity	Food pricing and nutrient value
	Lecture	Lesson 3: Population growth, overpopulation, poverty & economic development
Week 3 : 10 June - 16 June	Project	Essay preparation – topic choice and argument structure
	Lecture	Lesson 4: Sexual selection and human mating systems
	Workshop	Workshop: Sexual selection game (Spinder)
Week 4 : 17 June - 23 June	Lecture	Lesson 5: Sexual conflict
	Blended	Practise and prepare for Test 1
	Lecture	Lesson 6: Violence, homicide and property crime
Week 5 : 24 June - 30 June	Assessment	Test - In-person (bring an Inspera-compativle laptop)
	Workshop	Workshop: Life-history trade-offs, & Parenting game (Inglorious Baskers)
	Studio	Evolution, Learning and Artificial Intelligence + Skills in Generative AI
Week 6 : 1 July - 7 July	Other	No Formal Classes This Week
Week 7 : 8 July - 14 July	Lecture	Lesson 7: Arms races, infectious diseases, parasites and pharmaceuticals
	Workshop	Lesson 8 & Workshop: Deception and self-deception: plagiarism, placebos & plane crashes
Week 8 : 15 July - 21 July	Lecture	Lesson 9: Parent-offspring conflict
	Workshop	Essay preparation and writing workshop
Week 9 : 22 July - 28 July	Lecture	Lesson 10: Living fast and slow: development, poverty and social environments
	Seminar	Test 1 review and Exam practice
Week 10 : 29 July - 4 August	Lecture	Lesson 11: Dying, growing old and falling apart
	Assessment	Final Essay Planning
	Other	Course review and Exam preparation

Attendance Requirements

Please note that lecture recordings are not available for this course. Students are strongly encouraged to attend all classes and contact the Course Authority to make alternative arrangements for classes missed.

General Schedule Information

This course consists of ~36 hours of class contact hours. These are held on Fridays, from 9am until 1pm (with breaks!), in Bioscience G07. You are expected to take an additional 2-6 hours per

week (depending on the week, and on how you work) of non-class contact hours to complete assessments, readings and class preparation.

Course Resources

Prescribed Resources

No prescribed resources

Recommended Resources

See Moodle

Additional Costs

None

Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Michael Kasumovic				Make contact via email	No	No
Convenor	Robert Brooks				Make contact via email	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