



BIOX122

Biological Basis of Behaviour

SP1 OUA 2017

Dept of Biological Sciences

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Disclaimer

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General Information

Unit convenor and teaching staff

Tutor

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Contact via email

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Caitlin Kordis

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Prerequisites

Corequisites

Co-badged status

Unit description

The Greatest Show on the Planet. This unit is a suitable introductory science unit for all students. It offers an integrative approach to the amazing world of animal behaviour. Basic mechanisms are covered, together with function and evolution. Scientific literacy about key ideas in the life sciences is an aim of the unit, which is delivered with engaging and colourful lectures and practicals. Such ideas include evolution, sex, genetics, how our brain works, sensing the world and animal communication. The unit culminates with some reflections on the lives of humans in our modern world and the role of culture in human evolution. All enrolment queries should be directed to Open Universities Australia (OUA): see

www.open.edu.au

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.open.edu.au/student-admin-and-support/key-dates/>

Learning Outcomes

On successful completion of this unit, you will be able to:

Describe the basic functioning of the nervous system in animals, including the senses

Explain the principles of evolution by natural selection and sexual selection

Outline basic concepts and principles of animal communication, sexual selection, human evolution, genetics, epigenetics, learning, and the topics of animal behaviour presented

in class

Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour

Understand and present collected scientific data

Extract key points from scientific papers and accurately communicate these to a general audience

Comment critically on scientific papers with regard to life on our Planet today

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Weekly quizzes</u>	18%	No	Weeks 2-13
<u>Lab exercise 1</u>	6%	No	Week 5
<u>Lab exercise 2</u>	6%	No	Week 7
<u>Draft commentary</u>	1%	No	Week 9
<u>Final commentary</u>	23%	No	Week 11
<u>Final exam</u>	46%	No	exam period

Weekly quizzes

Due: **Weeks 2-13**

Weighting: **18%**

Quizzes for review questions

For each week's lectures, a set of review questions are posted on the course web site. You should download the questions and answer them because the quizzes are based on them. You can and should treat the review questions as a test initially, because that helps you learn. But then you should of course check to make sure that you have the right answers. Keep the questions, and lecture slides and notes before you in doing the quizzes: it's open-book, don't handicap yourself. If you have answered the review questions, you should be near perfect on the quizzes. But be very mindful because any small error (e.g., misspelling in one letter) will be scored as incorrect, iLearn being pedantic and ruthless.

Due date for the quiz for Week n review questions is end of Week $n+1$, defined as Sunday midnight. Thus the quiz for Week 1 review questions are due Sunday of Week 2. We suggest not leaving the task till late on Sunday because the internet is not totally reliable, and iLearn won't know or care about your trials and tribulations. Late submissions will have the marks halved. The last date for quizzes is Sunday 20 November after which they will be closed. The motivation for

including this component is less evaluative and more pedagogical (graduate capability 1). The idea is to force you to review course material week by week. *We emphasize that performance on this component of assessments correlates highly with overall performance on this course.*

On successful completion you will be able to:

- Describe the basic functioning of the nervous system in animals, including the senses
- Explain the principles of evolution by natural selection and sexual selection
- Outline basic concepts and principles of animal communication, sexual selection, human evolution, genetics, epigenetics, learning, and the topics of animal behaviour presented in class
- Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour

Lab exercise 1

Due: **Week 5**

Weighting: **6%**

Short assignment in two parts, with fuller instructions separately provided, in a Word file and in movies. Part 1 is a quiz based on the lab exercise, and Part 2 is a document with 2 paragraphs that you upload via turnitin in iLearn.

On successful completion you will be able to:

- Understand and present collected scientific data
- Extract key points from scientific papers and accurately communicate these to a general audience

Lab exercise 2

Due: **Week 7**

Weighting: **6%**

Short assignment in two parts, with fuller instructions separately provided, in a Word file, an Excel sheet of data, and movies. Part 1 is a quiz based on the lab exercise, and Part 2 is a document with 1 graph and 1 paragraph that you upload via turnitin in iLearn.

On successful completion you will be able to:

- Understand and present collected scientific data

Draft commentary

Due: **Week 9**

Weighting: **1%**

Commentary article

The commentary article is a short commentary on a recent article, meant as an opinion piece for a popular audience. Further instructions are provided separately in a pdf and a few movies. This writing assignment has a due date for a draft (worth 1%) and the final product. The purpose of the draft is to get you some feedback from the tutor. Both first drafts and final submissions should be uploaded via turnitin onto iLearn. Every submission is electronic in this class.

On successful completion you will be able to:

- Extract key points from scientific papers and accurately communicate these to a general audience

Final commentary

Due: **Week 11**

Weighting: **23%**

Commentary article

The commentary article is a short commentary on a recent article, meant as an opinion piece for a popular audience. Further instructions are provided separately in a pdf and a few movies. This writing assignment has a due date for a draft (worth 1%) and the final product. The purpose of the draft is to get you some feedback from the tutor. Both first drafts and final submissions should be uploaded via turnitin onto iLearn. Every submission is electronic in this class.

On successful completion you will be able to:

- Extract key points from scientific papers and accurately communicate these to a general audience
- Comment critically on scientific papers with regard to life on our Planet today

Final exam

Due: **exam period**

Weighting: **46%**

Final exam, invigilated

The final exam consists of 50 multiple-choice questions, on lectures from Week 1 to Week 12 (Week 13 being a review). You must present yourself for examination at the time and place arranged for the invigilated exam.

On successful completion you will be able to:

- Describe the basic functioning of the nervous system in animals, including the senses
- Explain the principles of evolution by natural selection and sexual selection
- Outline basic concepts and principles of animal communication, sexual selection, human

evolution, genetics, epigenetics, learning, and the topics of animal behaviour presented in class

- Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour

Delivery and Resources

The Greatest Show on the Planet

BIOX122 is a suitable introductory science course for all students. It offers an integrative approach to the amazing world of behaviour. Basic mechanisms are covered, together with function and evolution. Lecture topics include micro- and macro-evolution, evolutionary origins of behaviour, basic neuroscience, learning, brain and behaviour, and topics in animal behaviour. Lectures culminate with some reflections on the lives of humans in our modern world and the role of culture in human evolution.

Questions and requests about this course should be directed to the course chair:
ken.cheng@mq.edu.au

3 credit points
on Macquarie University's schedule for Sem 1

Sem 1, 2017, OUA offering offered

Chair

Ken Cheng	Dept. of Biological Sciences	ken.cheng@mq.edu.au	98508613
W21A 103	Consultation by appointment		

Teachers

Phil Taylor	Dept. of Biological Sciences	phil.taylor@mq.edu.au	98501311
W19F 144	Consultation by appointment		

Marianne Peso	Dept. of Biological Sciences	marianne.peso@mq.edu.au	98501312
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Greg Downey	Department of Anthropology	greg.downey@mq.edu.au	98508079
W6A 611	Consultation by appointment		

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Tutor

Larissa Trompf larissa.trompf@mq.edu.au

Unit Schedule

Week	Lecture	Topic	Teacher
1	1.1	Overview and introduction	Cheng
27 Feb-	1.2R	How science 'works'	Cheng
	1.3R	Ethics	Cheng
	1.4	Good study habits	Cheng
2	2.1R	Brief history	Taylor
6 Mar-	2.2	Tinbergen's explanations	Peso
3	3.1	Darwin and Evolution	Peso
13 Mar-	3.2R	Evolution on a small scale	Taylor
4	4.1R	Evolution on a large scale	Taylor
20 Mar-	4.2	Evolution of behaviour	Peso
5	5.1R	Genetics and epigenetics	Cheng
27 Mar-	5.2	Nervous system 1	Peso

6	6.1	Nervous system 2	Peso
3 Apr-	6.2R	Senses	Taylor
7	7.1	Perception (a 'folk musical')	Cheng
10 Apr-	7.2R	Learning 1: Basics	Cheng
Midsemester break 17 April-30 April			
8	8.1R	Learning 2: Cognitive approaches to learning	Cheng
1 May	8.2	Animal behaviour 1	Cheng
9	9.1R	Communication	Taylor
8 May-	9.2	Sexual selection	Peso
10	10.1R	Animal behaviour 2	Cheng
15 May	10.2	Human evolution	Downey
11	11.1R	Human mating	Sulikowski
22 May	11.2	Food and humans	Cheng
12	12.1R	Culture, altruism, morality	Cheng
29 May	12.2	Rise of civilisation and its influence on the Planet	Cheng

13	13.1	Summary and review	Cheng
5 June	13.2	Course song!	Cheng

Policies and Procedures

Late Submission - applies unless otherwise stated elsewhere in the unit guide

Unless a Special Consideration request has been submitted and approved, (a) a penalty for lateness will apply – two (2) marks out of 100 will be deducted per day for assignments submitted after the due date – and (b) no assignment will be accepted more than seven (7) days (incl. weekends) after the original submission deadline. No late submissions will be accepted for timed assessments – e.g. quizzes, online tests.

Extension Request

Special Consideration Policy and Procedure **(<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>)**

The University recognises that students may experience events or conditions that adversely affect their academic performance. If you experience serious and unavoidable difficulties at exam time or when assessment tasks are due, you can consider applying for Special Consideration.

You need to show that the circumstances:

1. were serious, unexpected and unavoidable
2. were beyond your control
3. caused substantial disruption to your academic work
4. substantially interfered with your otherwise satisfactory fulfilment of the unit requirements
5. lasted at least three consecutive days or a total of 5 days within the teaching period and prevented completion of an assessment task scheduled for a specific date.

If you feel that your studies have been impacted submit an application as follows:

1. Visit [Ask MQ](#) and use your OneID to log in
2. Fill in your relevant details

3. Attach supporting documents by clicking 'Add a reply', click 'Browse' and navigating to the files you want to attach, then click 'Submit Form' to send your notification and supporting documents
4. Please keep copies of your original documents, as they may be requested in the future as part of the assessment process

Outcome

Once your submission is assessed, an appropriate outcome will be organised.

OUA Specific Policies and Procedures

Withdrawal from a unit after the census date

You can withdraw from your subjects prior to [the census date](#) (last day to withdraw). If you successfully withdraw before the census date, you won't need to apply for Special Circumstances. If you find yourself unable to withdraw from your subjects before the census date - you might be able to [apply for Special Circumstances](#). If you're eligible, we can refund your fees and overturn your fail grade.

If you're studying Single Subjects using FEE-HELP or paying up front, you can [apply online](#).

If you're studying a degree using HECS-HELP, you'll need to [apply directly to Macquarie University](#).

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy http://mq.edu.au/policy/docs/assessment/policy_2016.html

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy (in effect until Dec 4th, 2017): http://www.mq.edu.au/policy/docs/disruption_studies/policy.html

Special Consideration Policy (in effect from Dec 4th, 2017): <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of Policy Central.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of

Conduct: https://students.mq.edu.au/support/student_conduct/

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit <ask.mq.edu.au>.

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (<mq.edu.au/learningskills>) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at <ask.mq.edu.au>

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Extract key points from scientific papers and accurately communicate these to a general audience
- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Lab exercise 2
- Draft commentary
- Final commentary

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Describe the basic functioning of the nervous system in animals, including the senses
- Explain the principles of evolution by natural selection and sexual selection
- Outline basic concepts and principles of animal communication, sexual selection, human evolution, genetics, epigenetics, learning, and the topics of animal behaviour presented in class
- Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour
- Understand and present collected scientific data
- Extract key points from scientific papers and accurately communicate these to a general audience
- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Weekly quizzes
- Lab exercise 1
- Lab exercise 2
- Draft commentary

- Final commentary
- Final exam

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Understand and present collected scientific data
- Extract key points from scientific papers and accurately communicate these to a general audience
- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Lab exercise 2
- Draft commentary
- Final commentary

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Understand and present collected scientific data
- Extract key points from scientific papers and accurately communicate these to a general audience
- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Lab exercise 1
- Lab exercise 2
- Draft commentary

- Final commentary

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcome

- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Draft commentary
- Final commentary

Changes from Previous Offering

What's new? The assignments have been revised, constituting routine updating. The newest thing is that we now run on the Macquarie schedule. What that means is that we have a two-week break between Week 7 and Week 8. More time for studying is a good thing, as spaced studying promotes better learning (Week 1, lecture 4).