



BBE 100

Introduction to Brain, Behaviour and Evolution

S1 Day 2015

Dept of Biological Sciences

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Disclaimer

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General Information

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Other Staff

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Credit points

3

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 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.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-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	Due
Review questions	18%	Weekly
Lab exercise 1	6%	Early: See unit guide
Lab exercise 2	6%	See unit guide
Draft commentary	1%	See unit guide
Final commentary	23%	See unit guide
Final exam	46%	final exam period

Review questions

Due: **Weekly**

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 unnecessarily. 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 23:55. 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 14 June 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: **Early: See unit guide**

Weighting: **6%**

A short assignment based on the practicals in Weeks 2-3. Each is in two parts, with fuller instructions separately provided. Part 1 is a quiz based on the lab exercise, and Part 2 is a document that you upload via turnitin in iLearn.

Due dates (have to be listed here because this web site is too stupid to allow different dates for different prac groups in the box labelled "due date").

Even-week prac groups: Sunday 22 March (23:59)

Odd-week prac groups: Sunday 29 March (23:59)

On successful completion you will be able to:

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

Lab exercise 2

Due: **See unit guide**

Weighting: **6%**

A short assignment based on the practicals in Weeks 6-7. Each is in two parts, with fuller instructions separately provided. Part 1 is a quiz based on the lab exercise, and Part 2 is a document that you upload via turnitin in iLearn.

Due dates (have to be listed here because this web site is too stupid to allow different dates for different prac groups in the box labelled "due date").

Even-week prac groups: Sunday 12 April (23:59)

Odd-week prac groups: Sunday 3 May (23:59)

On successful completion you will be able to:

- Understand and present collected scientific data

Draft commentary

Due: **See unit guide**

Weighting: **1%**

The commentary article is a short news commentary on a recent article, meant as an opinion piece for a popular audience.

Due dates (have to be listed here because this web site is too stupid to allow different dates for different prac groups in the box labelled "due date").

Even-week prac groups: Sunday 3 May (23:59)

Odd-week prac groups: Sunday 10 May (23:59)

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 commentary

Due: **See unit guide**

Weighting: **23%**

The commentary article is a short news commentary on a recent article, meant as an opinion piece for a popular audience.

Due dates (have to be listed here because this web site is too stupid to allow different dates for different prac groups in the box labelled "due date").

Even-week prac groups: Sunday 24 May (23:59)

Odd-week prac groups: Sunday 31 May (23:59)

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: **final exam period**

Weighting: **46%**

The final exam consists of 50 multiple-choice questions, on lectures from Week 1 to Week 12.

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

Lectures

2 h per week live, Thursdays 2-4 at Mason Theatre or Fridays 9-11 at Mason Theatre. One 1 h pre-recorded lecture available on iLearn.

Practicals

Practicals take place every two weeks on Mondays and Tuesdays, 9-6, in E5A 220

One stream will run in Weeks 2, 4, 6, 10, 12, while a second stream will run in Weeks 3, 5, 7, 9, 11 Details of pracs will be supplied at each prac.

You must wear closed-in shoes to pracs. And no food or drinks allowed in labs for pracs.

Bring your laptop if you have one: you can use them during pracs and our supply is limited.

It is now University policy that the University issued email account will be used for official University communication. All students are required to access their University account frequently.

Unit Schedule

Lecture schedule

R = pre-recorded lecture, not given live in class but made in a 'studio'. They are on iLearn, and you should listen to these lectures on your own each week. In case of problems with the videos, contact your unit convenor via the dialogue link in iLearn.

Week	Lecture	Topic	Teacher
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1	1.1	Overview and intro	Cheng
23 Feb-	1.2R	How science 'works'	Cheng
	1.3R	Ethics	Cheng
	1.4	Good study habits	Cheng
2	2.1R	Brief history	Taylor
2 Mar-	2.2	Tinbergen's explanations	Taylor
3	3.1	Darwin and Evolution	Taylor
9 Mar-	3.2R	Evolution on a small scale	Taylor
4	4.1R	Evolution on a large scale	Taylor
16 Mar-	4.2	Evolution of behaviour	Taylor
5	5.1R	Genetics and epigenetics	Cheng
23 Mar-	5.2	Nervous system 1	Taylor
6	6.1	Nervous system 2	Taylor
30 Mar-	6.2R	Senses	Taylor
Midsemester break 3-19 April			

7	7.1	Perception (a 'folk musical')	Cheng
20 Apr-	7.2R	Learning 1: Basics	Cheng
8	8.1R	Learning 2: Cognitive approaches to learning	Cheng
28 Apr-	8.2	Animal behaviour 1	Cheng
9	9.1R	Communication	Taylor
4 May-	9.2	Sexual selection	Taylor
10	10.1R	Animal behaviour 2	Cheng
11 May-	10.2	Human evolution	Downey
11	11.1R	Human mating	Sulikowski
18 May-	11.2	Food and humans	Cheng
12	12.1R	Culture, altruism, morality	Cheng
25 May-	12.2	Rise of civilisation and its influence on the Planet	Cheng
13	13.1	Summary and review	Cheng
1 Jun-	13.2	Course song!	Cheng

Prac schedule

Week	Even-week pracs	Odd-week pracs
1		no prac
2	Lab 1, discuss plan for experiment	
3		Lab 1, discuss plan for experiment
4	commentary discussion, part 1 of experiment, lab 1 due	
5		commentary discussion, part 1 of experiment, lab 1 due
6	part 2 of experiment, lab 2	
Midsem1	lab 2 due	
Midsem2		
7		part 2 of experiment, lab 2
8	no prac, commentary draft due	lab 2 due
9		brain prac, something fun
10	commentary feedback, writing practice	
11	commentary due	commentary feedback, writing practice
12	brain prac, something fun	commentary due
13		no prac

Learning and Teaching Activities

Lectures online

See Unit Schedule

Policies and Procedures

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.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

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

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

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://informatics.mq.edu.au/help/>.

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

Graduate Capabilities

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

- Review questions
- 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

- Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour
- Comment critically on scientific papers with regard to life on our Planet today

Assessment tasks

- Draft commentary
- Final commentary
- Final exam

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

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

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

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 is new this year?

Lecture schedule has been re-ordered, but we have pretty much the contents from 2014. We have a new edition of the textbook, with the chapters ordered for the new schedule. The class is now oriented more as a Planet unit. We have changed the first writing assignment, to be based on articles that are more relevant to your university studies. A new mode of review questions takes place this year, based on weekly quizzes. As before, good part of class time will feature live discussions based largely on thought-provoking video clips linking lecture topics to issues in our daily lives and in our society and world at large. We have added a Kickstart section with helpful tips. And last but not least, we have some new infotainment!