



BIOL122

Biological Basis of Behaviour

S2 Day 2016

Dept of Biological Sciences

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Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Unit Convenor

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First Year Biology Co-ordinator

Koa Webster

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E8B205

by appointment only

Kate Barry

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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	Hurdle	Due
Weekly quizzes	18%	No	Weeks 2-13
Lab exercise 1	6%	No	Week 4
Lab exercise 2	6%	No	Week 6
Draft commentary	1%	No	Week 8
Final commentary	23%	No	Week 11
Final exam	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
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- Extract and relate key theoretical ideas concerning the special topics on the evolution of human behaviour

Lab exercise 1

Due: **Week 4**

Weighting: **6%**

Short assignment based on the practicals in Week 2, in two parts, with fuller instructions separately provided. 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 6**

Weighting: **6%**

Short assignment based on the practicals in Week 4, in two parts, with fuller instructions separately provided. 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 8**

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 will be provided separately. 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 tutors. 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 will be provided separately. 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 tutors. 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

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 designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations.

On successful completion you will be able to:

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- 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

BIOL122 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 email in the first instance: biol122@mq.edu.au

3 credit points

Semester 2, 2016, internal offering

Lectures

Friday 9-11 a.m. in Macquarie Theatre

Practicals

Practicals start in Week 2 or Week 3, depending on your prac class. They take place every other week.

Practical classes with numbers 1-8 start in Week 2 and take place in even weeks of semester. Practical classes numbered 10, 11 or 13 start in Week 3 and take place in odd weeks of semester.

Please check iLearn and eStudent for your class details.

You must wear closed-in shoes to pracs. And no food or drink is 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.

Teaching Staff

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

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Danielle Sulikowski Department of Psychology, Charles Sturt University
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Tutors

To be announced

The list of tutors will appear on the unit's iLearn page in time.

Unit Schedule

Week	Lecture	Topic	Teacher
1	1.1	Overview and introduction	Cheng
1 Aug-	1.2R	How science 'works'	Cheng

	1.3R	Ethics	Cheng
	1.4	Good study habits	Cheng
2	2.1R	Brief history	Taylor
8 Aug-	2.2	Tinbergen's explanations	Taylor
3	3.1	Darwin and Evolution	Taylor
15 Aug-	3.2R	Evolution on a small scale	Taylor
4	4.1R	Evolution on a large scale	Taylor
22 Aug-	4.2	Evolution of behaviour	Taylor
5	5.1R	Genetics and epigenetics	Cheng
29 Aug-	5.2	Nervous system 1	Taylor
6	6.1	Nervous system 2	Taylor
5 Sep-	6.2R	Senses	Taylor
7	7.1	Perception (a 'folk musical')	Cheng
12 Sep-	7.2R	Learning 1: Basics	Cheng
Midsemester break 19 September-3 October			

8	8.1R	Learning 2: Cognitive approaches to learning	Cheng
3 Oct-	8.2	Animal behaviour 1	Cheng
9	9.1R	Communication	Taylor
10 Oct-	9.2	Sexual selection	Taylor
10	10.1R	Animal behaviour 2	Cheng
17 Oct-	10.2	Human evolution	Downey
11	11.1R	Human mating	Sulikowski
24 Oct-	11.2	Food and humans	Cheng
12	12.1R	Culture, altruism, morality	Cheng
31 Oct-	12.2	Rise of civilisation and its influence on the Planet	Cheng
13	13.1	Summary and review	Cheng
7 Nov-	13.2	Course song!	Cheng

Week	Prac
1	
2	Lab exercise 1, discuss plan for experiment
3	
4	Lab exercise 2, collect data in experiment

5	
6	Commentary assignment, search game
7	
Midsem 1	Work on your commentary
Midsem 2	Work on your commentary
8	brain prac, results of experiment, database search game
9	
10	Writing prac: feedback on commentary, writing practice
11	commentary due
12	review (practice test), something fun
13	

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

New Assessment Policy in effect from Session 2 2016 http://mq.edu.au/policy/docs/assessment/policy_2016.html. For more information visit http://students.mq.edu.au/events/2016/07/19/new_assessment_policy_in_place_from_session_2/

Assessment Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy prior to Session 2 2016 <http://mq.edu.au/policy/docs/grading/policy.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 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://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
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- 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 is new this year?

The name is new this year. This used to be called Introduction to Brain, Behaviour and Evolution. The class has a new logo, featured on this page. But the lecture contents stay similar, with the usual updates from year to year. The formats for assignments have stayed similar, but we have new target contents for Lab exercise 1, Lab exercise 2, and the commentary assignment, all the writing assignments. We have 1 more prac this year, 6 rather than 5.

Changes since First Published

Date	Description
29/07/ 2016	Koa Webster has replaced Katherine McClellan as admin contact. Updated practical class details.