BIOL122

Biological Basis of Behaviour

S2 External 2018

Dept of Biological Sciences

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
Ken Cheng
biol122@mq.edu.au
Contact via biol122@mq.edu.au
E8B 111
by appointment

Tutor
Susie Hewlett
susie.hewlett@students.mq.edu.au
Contact via email

Kate Barry
kate.barry@mq.edu.au

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

General Assessment Information

Assignment submission, Turnitin and Plagiarism

This is a paperless unit so no assignments or quizzes will be physically handed in. You will be required to submit all assignments through iLearn via a Turnitin link. Turnitin is an online program that detects plagiarised pieces of work. It compares not only work between students in the current year but also across previous years, across institutions, with all published materials, and the internet. It is an incredibly effective tool. It is a requirement for all assignments in the course that they be written in your own words. Do not under any circumstances lend your work to another student. If that student plagiarises your work you too will be liable. Do not copy and paste text into your document with the thought you will modify it later – you will forget! Lastly do not leave things to the last moment, as that is when the urge to plagiarise hits you most.

The penalties imposed by the University for plagiarism are serious and may include expulsion from the University. ANY evidence of plagiarism WILL be dealt with according to University policy.

Plagiarism involves using the work of another person and presenting it as one's own. A full outline of the Universities policy on plagiarism is found at http://www.mq.edu.au/policy/docs/ academic_honesty/policy.html. The website includes a general discussion of plagiarism, definitions, examples drawn from concrete cases, procedures that will be followed by the University in cases of plagiarism, and recommended penalties. Students are expected to familiarise themselves with the website.

Lateness penalties

- Review questions: no late submissions are accepted; the student forfeits the marks for the chapter
- Quizzes Lab exercises 1 and 2 (part 1): mark will be halved for any late submissions; Last day for submitting quizzes is two weeks after the due date
- Draft commentary: the entire 1% forfeited for any late submission
- Part 2 of Lab exercises 1 and 2, final commentary: 5% of assignment per day or part

thereof, including weekends

Final exam

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the week of December 17-21 2018. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. Approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly quizzes	18%	No	Weeks 2-13
Lab exercise 1	4%	No	Week 4
Lab exercise 2	7%	No	Week 11
Draft commentary	1%	No	Midsemester break, first week
Final commentary	25%	No	Week 9
Final exam	45%	No	exam period

Weekly quizzes

Due: **Weeks 2-13**
Weighting: **18%**

Review questions

These review questions are in the e-textbook. Some review questions in the textbook count for marks, while others are for practice and do not count for marks. Due dates:

Chapter 1: Tuesday 14 August

Chapter 2: Sunday 19 August

Chapter 3: Sunday 9 September

Chapter 4: Sunday 16 September

Chapter 5: 7 October

Chapter 6: 14 October

Chapter 7: 28 October

Chapter 8: 11 November

The quizzes close sharply at midnight of the due date, and late quizzes are not accepted.

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 4**
Weighting: **4%**

Short assignment in two parts, with fuller instructions separately provided in pracs. Part 1 is a quiz based on the lab exercise, and Part 2 is a document with 1 paragraph 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 11**
Weighting: **7%**

Short assignment in two parts, with fuller instructions separately provided in pracs. 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: **Midsemester break, first week**
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 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 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 9**
Weighting: **25%**

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. 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: **45%**

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 arranged for the 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

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 coordinator: biol122@mq.edu.au

3 credit points | Semester 2, 2017, internal offering

Lectures

Tuesdays 2–4 p.m. in Lotus Theatre

Practicals

Practicals take place at E5A 220, every 2 weeks on Wednesdays and Thursdays, 9:00-18:00. Most will attend in even weeks (2, 4, 6, 8, 10, and 12), while some will attend in odd weeks (3, 5, 7, 9, 11, 13). Details of pracs will be supplied at each prac.

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 it 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.

Textbook

The required textbook is custom made for the course, called *Biological Basis of Behaviour, 5th edition* compiled by Ken Cheng, published by McGraw-Hill, 2016, **ISBN-10 1-30-897443-4, ISBN-13 978-1-30-897443-9**. We recommend that you get this newest version, as new material has been added, in the form of two chapters written by Ken Cheng.

The relevant chapters for each week are listed on the unit's iLearn page.

An electronic version of the text (in colour and cheaper than the black-and-white hard copy) may be purchased from the publisher: http://www.mheducation.com.au/biological-basis-of-behaviour. Support from McGraw-Hill: www.mhhe.com/support.

What is new this year?

Except for two recorded guest lectures, Ken Cheng is giving all the lectures this year. Hopefully, this will give a unified voice to the lectures. The textbook has been updated, with new chapters written by Ken Cheng on history and on writing. The lecture contents, however, stay similar, with the usual updates from year to year. If anything can be said, more infotainment is being injected into lectures. The formats for assignments have stayed similar, but assigments have been updated in the usual renewal of materials from year to year.

Teaching Staff

Chair

Ken Cheng	Dept. of Biological Sciences	ken.cheng@mq.edu.au	98508613
E8B 111	Consultation by appointment		

Guest lecturers (recorded lectures)

Greg Downey Department of Anthropology greg.downey@mq.edu.au

Danielle Sulikowski Department of Psychology, Charles Sturt University
danielle.sulikowski@ymail.com

Tutors

Ken Cheng

Cody Freas freascody@gmail.com

Susie Hewlett Susie.hewlett@students.mq.edu.au

Jenny Plath jenny.plath@students.mq.edu.au

Kaja Wierucka kaja.wierucka@hdr.mq.edu.au

Unit Schedule

Week	Lecture	Topic
1	1.1	Overview and introduction
31 July–	1.2R	How science 'works'
	1.3R	Ethics
	1.4	Good study habits
2	2.1R	Brief history
7 Aug–	2.2	Tinbergen's explanations
3	3.1	Darwin and Evolution
14 Aug–	3.2R	Evolution on a small scale
4	4.1R	Evolution on a large scale
21 Aug–	4.2	Evolution of behaviour
5	5.1R	Genetics and epigenetics
28 Aug–	5.2	Nervous system 1
6	6.1	Nervous system 2
4 Sept–	6.2R	Senses

7	7.1	Perception (a 'folk musical')
11 Sept–	7.2R	Learning 1: Basics
Midsemester break 17 September–1 October		
8	8.1	Learning 2: Cognitive approaches to learning
2 Oct–	8.2R	Animal behaviour 1
9	9.1	Animal behaviour 2
9 Oct–	9.2R	Communication
10	10.1	Sexual selection
16 Oct–	10.2R	Human evolution, with Greg Downey
11	11.1R	Mating and family
23 Oct–	11.2	Darwinian psychiatry: depression
12	12.1R	Culture, altruism, morality
31 Oct–	12.2	Rise of civilisation and its influence on the Planet
13	13.1	Summary and review
6 Nov–	13.2	Course song!

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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/study/getting-started/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 1
- 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 1
- 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 task

- Final commentary

Changes from Previous Offering

What is new this year?

The newest thing this year is a new e-textbook, written by Ken Cheng, which is tailored to the lecture materials, so that the textbook is truly helpful for studying. Some new lecture materials will be based on the textbook, including a lecture on Darwinian psychiatry. The textbook will also contain the open-book quiz questions for (easy) grades, plus a bunch of practice questions that will not count for grades. We will also roll out live-streaming interactions this year. Other than that, the revisions entail the typical renewal of assessment items and lecture materials.

Changes since First Published

Date	Description
27/07/2018	-