General Information

Unit convenor and teaching staff
Tutor
Larissa Trompf
larissa.trompf@mq.edu.au
Contact via email

Ken Cheng
ken.cheng@mq.edu.au

Katherine McClellan
katherine.mcclellan@mq.edu.au

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

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

**Assessment Tasks**

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekly quizzes</td>
<td>18%</td>
<td>Weeks 2-13</td>
</tr>
<tr>
<td>Lab exercise 1</td>
<td>6%</td>
<td>Week 5</td>
</tr>
<tr>
<td>Lab exercise 2</td>
<td>6%</td>
<td>Week 7</td>
</tr>
<tr>
<td>Draft commentary</td>
<td>1%</td>
<td>Week 9</td>
</tr>
<tr>
<td>Final commentary</td>
<td>23%</td>
<td>Week 11</td>
</tr>
<tr>
<td>Final exam</td>
<td>46%</td>
<td>exam period</td>
</tr>
</tbody>
</table>

**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.*

This Assessment Task relates to the following 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

**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.

This Assessment Task relates to the following Learning Outcomes:

- 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.

This Assessment Task relates to the following Learning Outcomes:

- 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 be 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.

This Assessment Task relates to the following Learning Outcomes:

• 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.

This Assessment Task relates to the following 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

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.

This Assessment Task relates to the following 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

**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 Sem 1, 2017, OUA offering offered on Macquarie University’s schedule for Sem 1

**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
W19F Consultation by appointment

Greg Downey Department of Anthropology greg.downey@mq.edu.au 98508079
W6A 611 Consultation by appointment

http://unitguides.mq.edu.au/unit_offerings/74279/unit_guide/print
### Unit Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Topic</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.1</td>
<td>Overview and introduction</td>
<td>Cheng</td>
</tr>
<tr>
<td>27</td>
<td>1.2R</td>
<td>How science 'works'</td>
<td>Cheng</td>
</tr>
<tr>
<td></td>
<td>1.3R</td>
<td>Ethics</td>
<td>Cheng</td>
</tr>
<tr>
<td></td>
<td>1.4</td>
<td>Good study habits</td>
<td>Cheng</td>
</tr>
<tr>
<td>2</td>
<td>2.1R</td>
<td>Brief history</td>
<td>Taylor</td>
</tr>
<tr>
<td>6 Mar</td>
<td>2.2</td>
<td>Tinbergen's explanations</td>
<td>Peso</td>
</tr>
<tr>
<td>3</td>
<td>3.1</td>
<td>Darwin and Evolution</td>
<td>Peso</td>
</tr>
<tr>
<td>13 Mar</td>
<td>3.2R</td>
<td>Evolution on a small scale</td>
<td>Taylor</td>
</tr>
<tr>
<td>4</td>
<td>4.1R</td>
<td>Evolution on a large scale</td>
<td>Taylor</td>
</tr>
<tr>
<td>20 Mar</td>
<td>4.2</td>
<td>Evolution of behaviour</td>
<td>Peso</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Session</td>
<td>Topic</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>5</td>
<td>27 Mar-</td>
<td>5.1R</td>
<td>Genetics and epigenetics</td>
</tr>
<tr>
<td>6</td>
<td>3 Apr-</td>
<td>6.1</td>
<td>Nervous system 2</td>
</tr>
<tr>
<td>6</td>
<td>3 Apr-</td>
<td>6.2R</td>
<td>Senses</td>
</tr>
<tr>
<td>7</td>
<td>10 Apr-</td>
<td>7.1</td>
<td>Perception (a ‘folk musical’)</td>
</tr>
<tr>
<td>7</td>
<td>10 Apr-</td>
<td>7.2R</td>
<td>Learning 1: Basics</td>
</tr>
</tbody>
</table>

**Midsemester break 17 April-30 April**

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Session</th>
<th>Topic</th>
<th>Lecturer</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1 May</td>
<td>8.1R</td>
<td>Learning 2: Cognitive approaches to learning</td>
<td>Cheng</td>
</tr>
<tr>
<td>8</td>
<td>1 May</td>
<td>8.2</td>
<td>Animal behaviour 1</td>
<td>Cheng</td>
</tr>
<tr>
<td>9</td>
<td>8 May-</td>
<td>9.1R</td>
<td>Communication</td>
<td>Taylor</td>
</tr>
<tr>
<td>9</td>
<td>8 May-</td>
<td>9.2</td>
<td>Sexual selection</td>
<td>Peso</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>10.1R</td>
<td>Animal behaviour 2</td>
<td>Cheng</td>
</tr>
</tbody>
</table>
Late Submission

Unless otherwise stated, late submission of written work will result in a deduction of 10% of the mark awarded for each week or part of a week beyond the due date, or date to which an extension has been granted.

Extension Request


The University recognises that students may experience disruptions that adversely affect their academic performance in assessment activities.

The disruption to studies policy (http://www.mq.edu.au/policy/docs/disruption_studies/policy.html) applies only to serious and unavoidable disruptions that arise after a study period has commenced.

Serious and unavoidable disruption

The University classifies a disruption as serious and unavoidable if it:
• could not have reasonably been anticipated, avoided or guarded against by the student; and
• was beyond the student's control; and
• caused substantial disruption to the student's capacity for effective study and/or completion of required work; and
• occurred during an event critical study period and was at least three (3) consecutive days duration, and/or
• prevented completion of a final examination.

If you feel that you've been impacted by a serious and unavoidable disruption to study situation, submit an application as follows:

1. Visit Ask MQ (https://ask.mq.edu.au) and use your OneID to log in via 'Current student domestic and international'
2. Under 'Forms' select 'disruptions' and 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

Review
Once your submission is assessed, recommendations are sent to your unit convenor to ensure an appropriate solution for affected assessment(s) is organised.

OUA Specific Policies and Procedures

OUA Special Circumstances Process

Special Circumstances refers to late withdrawal from a unit and your request to have your circumstances taken into account for a possible refund of fees and removal of a "fail" result.

Applications for Special Circumstances are to be submitted to Open Universities Australia directly:


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
Unit guide BI0X122 Biological Basis of Behaviour


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 Enquiry Service

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

Equity 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.
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

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
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

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
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

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).