BBE 200

Animal Behaviour

S2 Day 2015

Dept of Biological Sciences

Contents

General Information

Unit convenor and teaching staff

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Credit points
3

Prerequisites
BBE100 or BBE101 or BIOL108 or BIOL114 or PSY104 or PSY105 or PSYC104 or PSYC105

Corequisites

Co-badged status

Unit description
This unit explores the fascinating world of animal behaviour, searching out unifying principles that underlie the extreme diversity of behaviour in nature. Why do birds and bees sing and dance? What keeps families together? How do animals find food? How do animals with very different sensory systems find their way about? This unit explores the physiological and neural mechanisms underpinning behaviour, and the function and evolution of natural behaviour. Lectures explore the natural behaviour of diverse animal species, from insects to humans, using instructive examples to illustrate evolution, navigation, foraging, predator–prey interactions, mating systems, mate choice, conflict, communication, and social behaviour. Practical work involves observing behaviour, hypothesis development, data collection, and analysis.

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 main categories of behaviour observed in animals

Identify the proximate and ultimate mechanisms of animal behaviour

Apply animal behaviour research to conservation issues

Conduct behavioural observation and apply methods of behavioural analysis

Design, conduct and analyse behavioural experiments

General Assessment Information

Assessment tasks

All written assessment tasks will be submitted through iLearn, via turnitin. Assessment tasks will be returned via iLearn.

		Due
Weekly quizzes (10%) Contribute to learning outcomes 1-3.	There will be an online quiz every week covering the content from the lectures the week before. There will be 10 of these quizzes, due by midnight on Tuesdays throughout the semester.	11/8, 18/8, 25/8, 1/9, 8/9, 29/9, 6/10, 13/10, 20/10, 27/10 11:59pm

Experiment methods (10%) Contributes to learning outcomes: 4-5.	For this assessment, you will complete a methods section (following the style of the journal *Animal Behaviour*) describing the procedure you used in the experiment you conducted in the practical. You will work on peer assessing these sections in the practical in week 6 (4/9).	3/9 11:59pm
Mid-semester exam (20%) Contributes to learning outcomes: 1-5.	The mid-semester exam will take place in the lecture. It will cover the material from the lectures and practicals up until the day of the exam and will have a mix of multiple choice and short answer questions.	9/9 11:59pm
Experiment report (20%) Contributes to learning outcomes: 1-5.	The experimental report will be written about an experiment you will conduct in the practical. It will include: an introduction, your methods, your results and a brief discussion.	2/10 11:59pm
Final exam (40%) Contributes to learning outcomes: 1-5.	The final exam will take place during the exam period in November. It will cover material from the lectures and pracs for the entire year.	TBA

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly quizzes	10%	No	Weeks 2-11
Experiment methods	10%	No	3/9 11:59pm
Mid-semester exam	20%	No	9/9
Experiment report	20%	No	2/10 11:59pm
Final exam	40%	No	TBA exam period

Weekly quizzes

Due: **Weeks 2-11**
Weighting: **10%**

There will be an online quiz every week covering the content from the lectures the week before.

There will be 10 of these quizzes, due by midnight on Tuesdays throughout the semester.

On successful completion you will be able to:

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues

Experiment methods

Due: **3/9 11:59pm**
Weighting: **10%**

For this assessment, the students will complete a methods section (following the style of the journal *Animal Behaviour*) describing the procedure they used in the experiment conducted in the practical. They will work on peer assessing these sections in the practical in week 6 (4/9).

On successful completion you will be able to:

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Mid-semester exam

Due: **9/9**
Weighting: **20%**

The mid-semester exam will take place in the lecture. It will cover the material from the lectures and practicals up until the day of the exam and will have a mix of multiple choice and short answer questions.

On successful completion you will be able to:

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Experiment report

Due: **2/10 11:59pm**
Weighting: **20%**

The experiment report will be written about an experiment to be conducted in the practical. It will include: an introduction, methods, results and a brief discussion.

On successful completion you will be able to:

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Final exam

Due: **TBA exam period**
Weighting: **40%**

The final exam will take place during the exam period in November. It will cover material from the lectures and pracs for the entire year.

On successful completion you will be able to:

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Delivery and Resources

Unit Staff

Convenor and lecturer:

Dr. Marianne Peso

W19F 139

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Lecturers:

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W19A

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E8A

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Pre-requisites

Any of: BBE100; BBE101; BIOL108; BIOL114; PSY104; PSY105; PSYC104; PSYC105

Unit description

This unit explores the fascinating world of animal behaviour, searching out unifying principles that underlie the extreme diversity of behaviour in nature. Why do birds and bees sing and dance? What keeps families together? How do animals find food? How do animals with very different sensory systems find their way about? This unit explores the physiological and neural mechanisms underpinning behaviour, and the function and evolution of natural behaviour. Lectures explore the natural behaviour of diverse animal species, from insects to humans, using instructive examples to illustrate evolution, navigation, foraging, predator–prey interactions, mating systems, mate choice, conflict, communication, and social behaviour. Practical work involves observing behaviour, hypothesis development, data collection, and analysis.

Course structure

The course consists of a two, one-hour live lectures, an iLearn 'lecture' and a two-hour practical each week. You are expected to attend lectures to get the full learning experience, particularly when we have guest lecturers. Lectures given live will be recorded and available online. We will work through a potential exam question every lecture. If you attend, you will be able to ask questions to understand it properly.

You will be expected to complete the iLearn 'lecture' material each week. It will include a quiz summarising the topics we covered in the last week's lecture.

Attendance of practicals is mandatory (see course requirements below). Note that there is no practical in week 1. See details of assignments below.

Unit completion requirements

To pass this subject you must achieve all of the following:

- **Receive a final overall mark of >50%**
- **Miss no more than one practical (without approval)**
- **Submit all assignments**

Timetable

Live Lecture (1 h)	**Wednesday**	**11:00 - 12:00**	E7B T3
Live Lecture (1 h)	**Wednesday**	**14:00 - 15:00**	E7B T3
Practical (2 h)	**Friday**	**10:00 - 12:00**	E8A 120 & 160
		13:00 - 15:00	E8A 120 & 160

iLearn 'lecture' (1h) **Will be made available on Monday of each week.**

You must wear closed-in shoes to pracs. 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.

Website

Unit outline, lecture and practical materials and course notices will be distributed via iLearn.

http://ilearn.mq.edu.au

iLearn is a web-based computer mediated communication package and can be accessed by most web browsers from inside or outside the University. **iLearn** and email will be the principle method of communication in this subject.

You must use **iLearn** for:

- Regularly checking subject announcements—particularly with regard to the pracs and class readings;
- Downloading course materials;
- Downloading some of the reference material;
- Using the discussion board.

The URL for the **iLearn** log-in page is: http://ilearn.mq.edu.au/. You will need to log in to **iLearn** each time you use it. If you are having trouble accessing your online unit due to a disability or health condition, please go to the Student Services Website at http://students.mq.edu.au/support/health_and_wellbeing/disability_service/services_available/ for information on how to get

assistance. If you are having problems logging on and you cannot log in after ensuring you have entered your username and password correctly, you should contact Student IT Help, Phone: (02) 9850 4357 (in Sydney) or 1 800 063 191 (outside Sydney).

Textbook

The required textbook is *Animal Behaviour* (10th ed.) by John Alcock, published by Sinauer and is available at the Co-op bookshop on campus.

Unit Schedule

UNIT SCHEDULE

Week	Topic	**P**rac/**A**ssignment/**Q**uiz
1. 27/7 Unit overview and current research	L1: Intro to course, intro to animal behaviour L2: Current research in animal behaviour iLearn lecture 1: History of behavioural study	P: No practical this week. Q: No quiz.
1. 3/8 Enemies and personality	L3: Trade offs and antipredator behaviour L4: Animal personality iLearn lecture 2: Thinking in terms of trade offs	P: Real animal behaviour research. Q: Quiz due 11/8 11:59pm. (1%)
1. 10/8 Social behaviour	L5: Evolution of social behaviour and altruism L6: Animal communication and behaviour iLearn lecture 3: Scientific conference, science communication	P: Working with Tinbergen's four questions, making ethograms and analysing behaviour Q: Quiz due 18/8 11:59pm. (1%)
1. 17/8 Food and shelter	L7: Habitat selection L8: Foraging behaviour iLearn lecture 4: Anthropomorphising animal behaviour	P: Analysis of behaviour: measuring parameters, viewer bias, data management, and statistical analysis. Q: Quiz due 25/8 11:59pm. (1%)
1. 24/8 Behaviour within and between the sexes	L9: Intrasexual selection/competition/contest resolution L10: Reproductive behaviour and sexual selection iLearn lecture 5: How do animals recognise each other	P: Performing your own social behaviour experiment. You will do your report based on this prac. Q: Quiz due 1/9 11:59pm. (1%)

1. 31/8 Behaviour between the sexes	L11: The evolution of mating systems L12: Parental care iLearn lecture 6: Parental care and brood parasitism	A: Methods section: due 3/9 11:59pm. P: Methods section: peer assessment. Q: Quiz due 8/9 11:59pm. (1%)
1. 7/9 Mid-semester exam and migration/navigation	L13: Mid-semester exam L14: Migration and navigation iLearn lecture 6: Big migrations	P: Science writing and how to write a good report. A: Mid-semester exam (9/9, 20%) Q: Quiz due 29/9 11:59pm. (1%)
1. 28/9 Mechanisms of behaviour	L15: Behavioural plasticity through learning L16: Evolution of behaviour: development, imprinting, sensitive periods iLearn lecture 7: Social learning	P: Measuring behaviour in the field. A: Experimental report due 2/10 11:59pm. (20%) Q: Quiz due 6/10 11:59pm. (1%)
1. 5/10 Mechanisms of behaviour	L17: Genetics and behaviour L18: Neuroethology iLearn lecture 8: Are there genes for human behaviour? E.g. homosexuality	P: Mechanisms of behaviour. Q: Quiz due 13/10 11:59pm. (1%)
1. 12/10 Mechanisms of behaviour	L19: Hormones and neurobiology, biological rhythms and behaviour L20: Vision and behaviour iLearn lecture 9: Hormones and sex-specific behaviour	P: Mechanisms of behaviour. Q: Quiz due 20/10 11:59pm. (1%)
1. 19/10 Behaviour in practice	L21: Evolution and human behaviour L22: Vet med and behaviour/ Measuring behaviour from space iLearn lecture 10: The challenges of studying human behaviour and evolution	P: Unit summary, synthesis and exam review. Q: Quiz due 27/10 11:59pm. (1%)
1. 26/10 Behaviour in practice	L23: Behaviour and biosecurity L24: Behaviour of captive animals	P: No prac
13. 2/11 Wrap up	L1: Exam Q & A	P: No prac

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.

POLICIES

Macquarie has a number of policies in the area of learning and teaching. Approved policies and associated guidelines and procedures can be found at Policy Central: http://www.mq.edu.au/policy/

In particular you should be familiar with Macquarie's policy for academic honesty http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

and special consideration/disruption to studies. http://www.mq.edu.au/policy/docs/disruption_studies/policy.html

Student support services

Macquarie University provides a range of Academic Student Support Services: http://students.mq.edu.au/support/

On matters pertaining to the regulations, the Registrar's Office should be consulted. Students with difficulties in the unit, or students with disabilities who have special needs should consult Marianne Peso. If your difficulties still cannot be resolved, you should consult the Head of the Department of Biological Sciences.

The Learning Skills Centre at the Library's Learning Help Desk provides help that you might need with study skills in general, free of charge. The Centre offers individual consultations as well as group workshops on all aspects of studying at university. Their web site is at: http://www.students.mq.edu.au/support/learning_skills/

Plagiarism and academic honesty

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." This includes copying from your own previous work.

Plagiarism is a serious breach of the University's rules, is a form of academic dishonesty, and carries significant penalties. Read the University's practices and procedures on plagiarism.

http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. All written assignments that you hand in will be checked for plagiarism with turnitin.

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

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

- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Experiment methods
- Experiment report
- Final exam

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Describe the main categories of behaviour observed in animals
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Experiment report

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

Learning outcomes

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour

- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Final exam

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 main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Experiment report
- 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

- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Experiment report
- Final exam

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Experiment methods
- Mid-semester exam
- Experiment report
- 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

- Describe the main categories of behaviour observed in animals
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Experiment report
- Final exam

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 outcomes

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Experiment methods
- Mid-semester exam
- Experiment report
- Final exam

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 outcomes

- Describe the main categories of behaviour observed in animals
- Identify the proximate and ultimate mechanisms of animal behaviour
- Apply animal behaviour research to conservation issues
- Conduct behavioural observation and apply methods of behavioural analysis
- Design, conduct and analyse behavioural experiments

Assessment tasks

- Weekly quizzes
- Experiment methods
- Mid-semester exam
- Experiment report
- Final exam