



PSYU2236

Biopsychology and Learning

Session 2, Special circumstance 2020

Department of Psychology

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Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff

Unit Convenor

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By appointment

Unit Convenor

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Credit points

10

Prerequisites

(PSYC104 or PSYU1104 or PSYX104 or PSYX1104) and (PSYC105 or PSYU1105 or PSYX105 or PSYX1105) or ((COGS100 or COGS1000) or (MEDI204 or MEDI2300) or (BIOL204 or BIOL2230) and (STAT170 or STAT1170))

Corequisites

Co-badged status

Unit description

This unit is designed to give students a basic knowledge of central neuronal mechanisms underlying fundamental behaviours and how these behaviours are modified through experience (learning). Half of the program describes the cytoarchitecture of central and peripheral neurons; the physiological and ionic bases of axonal and synaptic transmission; the overall anatomical organisation of the mammalian brain, and; sensory processing. These topics are followed by discussion on the central mechanisms underlying mammalian behaviours, such as motivation and psychopathology. The other half of the program provides a basic understanding of diverse phenomena in learning and behaviour, including classical conditioning and operant conditioning.

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:

ULO1: Demonstrate an understanding of the key principles and processes of learning, mechanisms of behavioural neuroscience, neurophysiology, and neuropharmacology

ULO2: Effectively use electronic databases to search for papers in relevant topics.

ULO3: Demonstrate written and oral communication skills, including through participation in class discussions.

ULO4: Develop self-awareness skills by identifying and setting targets, and applying time management.

ULO5: Critically analyse the key concepts of biopsychology and learning.

ULO6: Solve problems by comparing alternative interpretations of neuroscience data and formulating new explanations.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Online quiz</u>	10%	No	Throughout the session
<u>Research Report</u>	40%	No	11/9/2020
<u>Final Examination</u>	50%	No	During university examination period

Online quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Throughout the session**

Weighting: **10%**

Regular online quizzes testing unit content.

On successful completion you will be able to:

- Demonstrate an understanding of the key principles and processes of learning, mechanisms of behavioural neuroscience, neurophysiology, and neuropharmacology
- Effectively use electronic databases to search for papers in relevant topics.
- Demonstrate written and oral communication skills, including through participation in class discussions.
- Develop self-awareness skills by identifying and setting targets, and applying time management.

- Critically analyse the key concepts of biopsychology and learning.
- Solve problems by comparing alternative interpretations of neuroscience data and formulating new explanations.

Research Report

Assessment Type ¹: Report

Indicative Time on Task ²: 30 hours

Due: **11/9/2020**

Weighting: **40%**

Students complete a 1500 word research report on a behavioural experiment.

On successful completion you will be able to:

- Demonstrate an understanding of the key principles and processes of learning, mechanisms of behavioural neuroscience, neurophysiology, and neuropharmacology
- Effectively use electronic databases to search for papers in relevant topics.
- Demonstrate written and oral communication skills, including through participation in class discussions.
- Develop self-awareness skills by identifying and setting targets, and applying time management.
- Critically analyse the key concepts of biopsychology and learning.
- Solve problems by comparing alternative interpretations of neuroscience data and formulating new explanations.

Final Examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 49 hours

Due: **During university examination period**

Weighting: **50%**

Final examination held within the University's formal exam period, in accordance with relevant requirements.

On successful completion you will be able to:

- Demonstrate an understanding of the key principles and processes of learning,

mechanisms of behavioural neuroscience, neurophysiology, and neuropharmacology

- Effectively use electronic databases to search for papers in relevant topics.
- Demonstrate written and oral communication skills, including through participation in class discussions.
- Develop self-awareness skills by identifying and setting targets, and applying time management.
- Critically analyse the key concepts of biopsychology and learning.
- Solve problems by comparing alternative interpretations of neuroscience data and formulating new explanations.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Lectures: The unit will be taught weekly through on-line audio and video recordings of several topics. These topics will be reviewed in a weekly 1 hr session in an online lecture. The review sessions are designed to give students an opportunity to review the lecture topic material, and to ask questions about them.

Practical Classes: Students will attend a practical class once a fortnight. These classes extend lecture material by examining research and practical applications of the more theoretical material covered in lectures. Attending may either be in a classroom or online via Zoom.

There will be **online quizzes** for students to assess their understanding of the lecture content. These quizzes will contribute 10% to the assessment marks of the students.

The **textbooks** used in this unit are:

Mazur, J.E. (2017). *Learning and Behavior* (8th Ed. International Ed.). Engelwood Cliffs, NJ: Prentice-Hall. Library has electronic copy available through ebookcentral-proquest

Kalat, J.W. (2019, 2015, 2013, 2009, 2007). *Biological Psychology* (13th, 12th, 11th, 10th or 9th ed).

Unit Schedule

Week starting		Topic	LECTURER	TEXT	TUTORIAL
1	27 July	Introduction to Learning. Non-associative learning. Classical Conditioning 1 — Introduction, terms and forms of CC	Irwin	Mazur Ch. 1-3	NO PRACTICAL
2	3 Aug	Classical Conditioning 2 — Variations of CC and limitations in CC Classical Conditioning 3 — Temporal parameters of CC — Inhibition and extinction of CR	Irwin	Mazur Ch. 3-4	Practical One Learning I Motor skill (Stream A)
3	10 Aug	Classical Conditioning 4 — Contingency — Rescorla Wagner	Irwin	Mazur Ch. 4	Practical One Learning I Motor Skill (Stream B)
4	17 Aug	Operant conditioning	Irwin	Mazur Ch. 5 & 6	Practical Two Learning II (Stream A)
5	24 Aug	Extinction	Irwin	Pp 64-66, 126	Practical Two Learning II (Stream B)
6	31 Aug	Punishment Escape and Avoidance learning	Irwin	Mazur 7	Practical Three Learning III (Stream A)
Biopsychology					
7	7 Sept	Behavioural Neuroscience: Genetics, Animal models of addiction	Ramsey	Kalat Ch. 4 & 12	Practical Three Learning III (Stream B)
SESSION BREAK					
8	28 Sept	The Nervous Systems. Brain Cells.	Ramsey	Kalat Ch. 1 & 3	NO PRACTICAL

9	5 Oct	Neurophysiology, Neurochemistry, Communication by Receptors.	Ramsey	Kalat Ch. 1 & 2	Practical Four Neuroanatomy I Kalat Ch. 2 & 3 (Stream A)
10	12 Oct	Neurotransmitters. Neurotransmitter System Dysfunction.	Ramsey	Kalat Ch. 2, 14 & App. A	Practical Four Neuroanatomy I Kalat Ch. 2 & 3 (Stream B)
11	19 Oct	Substance Use, Substance Use Disorder,	Cornish	Kalat Ch. 14	Practical Five Neuroanatomy II Kalat Ch. 3 & 4 (Stream A)
12	26 Oct	Neurobiology of Learning and Memory.	Ramsey	Kalat Ch. 12	Practical Five Neuroanatomy II Kalat Ch. 3 & 4 (Stream B)
13	2 Nov	Revision Quiz covering Learning and Biopsychology			NO PRACTICAL

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) (<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.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/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>).

[s://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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 published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) 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 or if you are a Global MBA student contact globalmba.support@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 help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

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

If you are a Global MBA student contact globalmba.support@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.

Changes from Previous Offering

There may be changes on the delivery of face-to-face teaching in terms of the practicals and revision lecture due to the COVID19 pandemic.

All references to Sniffy, both the textbook and the practical schedule have been removed. We have developed a replacement practical that will not involve using the computers

Changes since First Published

Date	Description
27/ 07/ 2020	The due date for the report had to be updated from 13/9/2020 to 11/9/2020
21/ 07/ 2020	Unit Convenor status changed to senior tutor for two staff members
17/ 07/ 2020	Under the assessment section it incorrectly stated that online quizzes were due in week 13 - it now reads that they are held throughout the session