PSYU2236

Biopsychology and Learning

Session 2, Online-scheduled-In person assessment, North Ryde 2023

School of Psychological Sciences

Contents

General Information

Unit convenor and teaching staff
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 (PSYU1101 or PSYX1101) and (PSYU1102 or PSYX1102) and (STAT1103 or STAX1103)) 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.

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

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

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

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

General Assessment Information

Grade descriptors and other information concerning grading are contained in the Macquarie University Assessment Policy.

All final grades are determined by a grading committee, in accordance with the Macquarie University Assessment Policy, and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade and a mark which must correspond to the grade descriptors specified in the Assessment Procedure (clause 128).

To pass this unit, you must demonstrate sufficient evidence of achievement of the learning outcomes, meet any ungraded requirements, and achieve a final mark of 50 or better.

The final exam for this unit will take place on Macquarie University campus. Students are expected to make themselves available for the final exam, at the date and time set by the University, in line with the Assessment Policy and Procedure. Sitting the final exam is compulsory in order to be eligible to pass the unit. Any student who does not attempt the final exam will be granted a Fail Absent grade.

Word count penalty: 5% of the total possible mark will be deducted per 100 words over the word limit for the research report assessment task. An additional 99 words beyond the limit can be written without penalty.

Further details for each assessment task will be available on iLearn.

Late Submissions

Unless a Special Consideration request has been submitted and approved, a 5% penalty (OF THE TOTAL POSSIBLE MARK) will be applied each day a written assessment is not submitted, up until the seventh day (including weekends). After the seventh day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11:55PM. A one-hour grace period is provided to students who experience a technical concern.

For example:

Number of days (hours) late	Total Possible Marks	Deduction	Raw mark	Final mark
1 day (1-24 hours)	100	5	75	70

2 days (24-48 hours)	100	10	75	65
3 days (48-72 hours)	100	15	75	60
7 days (144-168 hours)	100	35	75	40
>7 days (>168 hours)	100	-	75	0

For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

Assessment Tasks

Name	Weighting	Hurdle	Due
Research Report	40%	No	Friday, 8 September
Online quiz	10%	No	Throughout the session
Final Examination	50%	No	Formal University Examination Period

Research Report

Assessment Type [1]: Report
Indicative Time on Task [2]: 30 hours
Due: **Friday, 8 September**
Weighting: **40%**

Students complete a 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.
- Develop self-awareness skills by identifying and setting targets, and applying time management.
- Demonstrate written and oral communication skills, including through participation in class discussions.

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

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.
- Develop self-awareness skills by identifying and setting targets, and applying time management.
- Demonstrate written and oral communication skills, including through participation in class discussions.
- 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]: 48 hours
Due: **Formal 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.
- Develop self-awareness skills by identifying and setting targets, and applying time management.
- Demonstrate written and oral communication skills, including through participation in class discussions.
- Critically analyse the key concepts of biopsychology and learning.
- Solve problems by comparing alternative interpretations of neuroscience data and formulating new explanations.

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[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

This unit consists of scheduled lectures and tutorial classes. Lectures are delivered on campus with online options via Echo360. Tutorial classes are held on campus and for the in-person version and online for the online version, and they commence in Week 2. See iLearn for full details.

Recommended Readings

Mazur, J.E. (2017). Learning and Behavior (8th Ed. or 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).

Technology Used

Active participation in the learning activities throughout the unit will require students to have access to a tablet, laptop, or similar device. Students who do not own their own laptop computer may borrow one from the university library.

Unit Schedule

Week starting	Topic	Text	Tutorial

1	24 July	**Introduction to the Unit** **Non-associative Learning** **Classical Conditioning 1** - Terms and forms of classical conditioning	Mazur Chapers 1 to 3	-
2	31 July	**Classical Conditioning 2** - Variations and limitations **Classical Conditioning 3** - Temporal parameters of classical conditioning - Inhibition and extinction of conditioned response	Mazur Chapters 3 and 4	**Tutorial 1** Learning 1 (Stream A)
3	7 August	**Classical Conditioning 4** - Contingency - Rescorla-Wagner model	Mazur Chapter 4	**Tutorial 1** Learning 1 (Stream B)
4	14 August	**Operant Conditioning**	Mazur Chapters 5 and 6	**Tutorial 2** Learning 2 (Stream A)
5	21 August	**Extinction**	Mazur pp. 64 to 66, 126	**Tutorial 2** Learning 2 (Stream B)
6	28 August	**Punishment** **Escape and Avoidance Learning**	Mazur Chapter 7	-
Biopsychology				
7	4 September	**Behavioural Neuroscience**	Kalat Chapters 4 and 12	-
SESSION BREAK				
8	25 September	**The Nervous Systems**	Kalat Chapters 1 and 3	-
9	2 October	**Neurophysiology** **Neurochemistry** **Communication by Receptors**	Kalat Chapers 1 and 2	**Tutorial 3** Biopsychology 1 (Stream A)
10	9 Oct	**Neurotransmitters** **Neurotransmitter Dysfunction**	Kalat Chapters 2 and 14, App. A	**Tutorial 3** Biopsychology 1 (Stream B)

11	16 October	**Substance Use** **Substance Use Disorder**	Kalat Chapter 14	**Tutorial 4** Biopsychology 2 (Stream A)
12	23 October	**Neurobiology of Learning and Memory**	Kalat Chapter 12	**Tutorial 4** Biopsychology 2 (Stream B)
13	30 October	**Revision**		-

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). 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
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

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

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/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

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the 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

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

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.

Inclusion and diversity

Social inclusion at Macquarie University is about giving everyone who has the potential to benefit from higher education the opportunity to study at university, participate in campus life and flourish in their chosen field. The University has made significant moves to promote an equitable, diverse and exciting campus community for the benefit of staff and students. It is your responsibility to contribute towards the development of an inclusive culture and practice in the areas of learning and teaching, research, and service orientation and delivery. As a member of the Macquarie University community, you must not discriminate against or harass others based on their sex, gender, race, marital status, carers' responsibilities, disability, sexual orientation, age, political conviction or religious belief. All staff and students are expected to display appropriate behaviour that is conducive to a healthy learning environment for everyone.

Professionalism

In the Faculty of Medicine, Health and Human Sciences, professionalism is a key capability embedded in all our courses.

As part of developing professionalism, students are expected to attend all small group interactive sessions including clinical, practical, laboratory, work-integrated learning (e.g., PACE placements), and team-based learning activities. Some learning activities are recorded (e.g., face-to-face lectures), however you are encouraged to avoid relying upon such material as they do not recreate the whole learning experience and technical issues can and do occur. As an adult learner, we respect your decision to choose how you engage with your learning, but we would remind you that the learning opportunities we create for you have been done so to enable your success, and that by not engaging you may impact your ability to successfully complete this unit. We equally expect that you show respect for the academic staff who have worked hard to develop meaningful activities and prioritise your learning by communicating with them in advance if you are unable to attend a small group interactive session.

Another dimension of professionalism is having respect for your peers. It is the right of every student to learn in an environment that is free of disruption and distraction. Please arrive to all learning activities on time, and if you are unavoidably detained, please join activity as quietly as possible to minimise disruption. Phones and other electronic devices that produce noise and other distractions must be turned off prior to entering class. Where your own device (e.g., laptop) is being used for class-related activities, you are asked to close down all other applications to avoid distraction to you and others. Please treat your fellow students with the utmost respect. If you are uncomfortable participating in any specific activity, please let the relevant academic know.

Unit information based on version 2023.03 of the Handbook