



PSYN8845

Neuroanatomy and Neuropsychopharmacology

Session 1, In person-scheduled-weekday, North Ryde 2024

School of Psychological Sciences

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General Information

Unit convenor and teaching staff

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By appointment

Lecturer

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Jennifer Cornish

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Credit points

10

Prerequisites

Admission to MClinNeuro

Corequisites

Co-badged status

Unit description

This unit provides an overview of the basic principles of neuropharmacology and explore the human brain, with particular emphasis on the disorders seen in the clinical practice of neuropsychologists and clinical psychologists. It begins with a review of basic principles of neuropharmacology and then covers the major neurotransmitter systems and how they are disordered in brain injury and psychological disorders such as depression, schizophrenia and the anxiety disorders. The unit examines development of the nervous system and the anatomy of the mature nervous system (the brain stem and associated structures, diencephalon, and telencephalon; blood supply; white matter pathways; ventricles; and meninges). By the end of the unit students are expected to identify, describe the role of structures of the brain and understand the implications of damage to structures of the brain for neuropsychological practice.

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 knowledge of the neuroscience and pharmacology of common mental disorders (Capability 1: Scientist and Scholar)

ULO2: Describe the meaning of key terms used in neuropsychopharmacology and neuroanatomy (Capability 1: Scientist and Scholar)

ULO3: Show that you are competent in interpreting and assessing brain structures (including cortical and subcortical structures and blood vessels) on images and neuroimaging, and explain what is known about their role in producing behaviour (Capability 2: Psychologist Practitioner)

ULO4: Explain the anatomical basis of the disorders commonly seen in clinical practice and uncommon disorders (Capability 2: Psychologist Practitioner)

ULO5: Critically evaluate the relevance and accuracy of neuroscience data in order to formulate evidence based arguments (Capability 2: Psychologist Practitioner)

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.

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 7th day (including weekends). After the 7th 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 1-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
Neuropsychopharmacology essay	30%	No	28/04/2024
Final examination	40%	No	28/05/2024
In class test	30%	No	19/03/2024

Neuropsychopharmacology essay

Assessment Type ¹: Essay

Indicative Time on Task ²: 20 hours

Due: **28/04/2024**

Weighting: **30%**

Students submit a 1500 word essay on a contemporary neuroscience and psychopharmacology topic.

On successful completion you will be able to:

- Demonstrate knowledge of the neuroscience and pharmacology of common mental disorders (Capability 1: Scientist and Scholar)
- Describe the meaning of key terms used in neuropsychopharmacology and

neuroanatomy (Capability 1: Scientist and Scholar)

- Show that you are competent in interpreting and assessing brain structures (including cortical and subcortical structures and blood vessels) on images and neuroimaging, and explain what is known about their role in producing behaviour (Capability 2: Psychologist Practitioner)
- Critically evaluate the relevance and accuracy of neuroscience data in order to formulate evidence based arguments (Capability 2: Psychologist Practitioner)

Final examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 30 hours

Due: **28/05/2024**

Weighting: **40%**

In this one hour exam students will be required to label photographs of brain structures and answer short answer questions.

On successful completion you will be able to:

- Describe the meaning of key terms used in neuropsychopharmacology and neuroanatomy (Capability 1: Scientist and Scholar)
- Show that you are competent in interpreting and assessing brain structures (including cortical and subcortical structures and blood vessels) on images and neuroimaging, and explain what is known about their role in producing behaviour (Capability 2: Psychologist Practitioner)
- Explain the anatomical basis of the disorders commonly seen in clinical practice and uncommon disorders (Capability 2: Psychologist Practitioner)
- Critically evaluate the relevance and accuracy of neuroscience data in order to formulate evidence based arguments (Capability 2: Psychologist Practitioner)

In class test

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 41 hours

Due: **19/03/2024**

Weighting: **30%**

Forty multiple choice questions in 1 hour

On successful completion you will be able to:

- Demonstrate knowledge of the neuroscience and pharmacology of common mental disorders (Capability 1: Scientist and Scholar)
- Describe the meaning of key terms used in neuropsychopharmacology and neuroanatomy (Capability 1: Scientist and Scholar)

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 and practicals will be held from 9am-12pm on Tuesdays. Face-to-face lectures and the lab practical are an essential part of PSYN8845. All students are therefore required to come to campus to participate in these sessions and complete the associated in-class assessment tasks. If you are unable to attend a lecture or the lab session in person due to unavoidable reasons (quarantine, illness, etc.), you should apply for Special Consideration through [AskMQ](#). Reasonable adjustments will be made for students with approved special consideration.

Recommended readings

Blumenfeld *Neuroanatomy through clinical cases*, 3rd Edition (2022)

Practical content

A practical neuroanatomy session will be held on 21st May.

The lab is a secure area. Worksheets will be provided. It will be helpful to bring something like a clipboard as there are no desks. There are lockers for personal possessions as they cannot be taken into the lab area.

Bring a lab coat if you have one. Disposable gowns and gloves will be provided.

Please wear fully enclosed shoes which cover the dorsal part of the foot (no ballet flats, flip-flops/thongs) and tie long hair back. No photographs or other recording devices are allowed. Follow the instructions of ASAM staff if you are directed in matters of lab safety, protocol or other matters.

No eating or drinking (including chewing gum) is permitted in the lab.

Respect for the dead is expected at all times.

Unit Schedule

Week	Date	Topic	Lecturer
1	20th February	Review of basic physiology & pharmacology	Prof Jennifer Cornish
2	27th February	Substance Abuse, Schizophrenia	Prof Jennifer Cornish
3	5th March	Anxiety, Affective Disorders	Prof Jennifer Cornish
4	12th March	ADHD, Autism	Prof Jennifer Cornish
5	19th March	In-class examination (on week 1-4 inclusive)	
6	26th March	Neuroplasticity, Alzheimer's Disease	Prof Jennifer Cornish
7	2nd April	History of neuroanatomy/neuropsychology, General organisation of the brain, Neuroimaging	A/Prof Heather Francis
8	9th April	Protection for the brain, Brainstem structures and function, the Cranial Nerves	A/Prof Heather Francis
9	30th April	Subcortical brain regions	A/Prof Heather Francis
10	7th May	The Cortex	A/Prof Heather Francis
11	14th May	Blood supply to the brain, Development of the CNS	A/Prof Heather Francis
12	21st May	Practical	Dr Jessica Madden
13	28th May	In-class examination (on week 6-12 inclusive)	

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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) (<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) (<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 2024.02 of the [Handbook](#)