



# MEDI3300

## Neuroscience

Session 2, In person-scheduled-weekday, North Ryde 2023

*Macquarie Medical School*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Unit convenor

Peter Burke

[peter.burke@mq.edu.au](mailto:peter.burke@mq.edu.au)

Contact via email

Consultation by appointment

Unit convenor

Bowen Dempsey

[bowen.dempsey@mq.edu.au](mailto:bowen.dempsey@mq.edu.au)

Contact via email

Consultation by appointment

Lecturer

Simon McMullan

[simon.mcmullan@mq.edu.au](mailto:simon.mcmullan@mq.edu.au)

Lecturer

Christopher Pastras

[christopher.pastras@mq.edu.au](mailto:christopher.pastras@mq.edu.au)

Lecturer

Mark Connor

[mark.connor@mq.edu.au](mailto:mark.connor@mq.edu.au)

Credit points

10

Prerequisites

(MEDI204 or MEDI2300) or (BIOL257 or BIOL2230) or (COGS2000 or COGS202)

Corequisites

Co-badged status

Unit description

In this unit you will expand on the knowledge gained in MEDI2300 to explore more complex neural processing. You will learn about the higher-order processing of movement, sensation and cognitive function, and apply this knowledge to neuropathology. You will engage in hot topic discussions on the latest developments in neuroscience to deepen your knowledge and understanding.

## 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:** Evaluate the higher-order neural processes required for the generation of movement, sensation, cognitive function and the maintenance of homeostasis.

**ULO2:** Appraise the pathological consequences that result from disruption to the central processing of movement, sensation, cognitive function and maintenance of homeostatic function.

**ULO3:** Critique the role of discovery in advancing the field of neuroscience in both a clinical and medical research setting.

## 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 to 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

Late submission of time sensitive tasks, such as timetabled tests/exams, scheduled performance assessments/presentations, scheduled practical assessments/labs, will be addressed by the unit convenor in a Special consideration application.

## Special Consideration

If you are unable to complete an assessment task on or by the specified date due to circumstances that are unexpected, unavoidable, significantly disruptive and beyond your control, you may apply for special consideration in accordance with the [Special Consideration Policy](#). Applications for special consideration must be supported by appropriate evidence and submitted via [ask.mq.edu.au](mailto:ask.mq.edu.au).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Online Quiz</a>	15%	No	Weekly
<a href="#">Mid-Semester Examination</a>	30%	No	In class, Week 7
<a href="#">Hot Topic Debate</a>	15%	No	In class, Week 11 & 12
<a href="#">Final Exam</a>	40%	No	Exam period

### Online Quiz

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 3 hours

Due: **Weekly**

Weighting: **15%**

Eight online open book quizzes that provide students with ongoing feedback.. Highest 5 marks counted.

On successful completion you will be able to:

- Evaluate the higher-order neural processes required for the generation of movement, sensation, cognitive function and the maintenance of homeostasis.

- Appraise the pathological consequences that result from disruption to the central processing of movement, sensation, cognitive function and maintenance of homeostatic function.

## Mid-Semester Examination

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 10 hours

Due: **In class, Week 7**

Weighting: **30%**

Mid-session exam that assesses learning up until that point.

On successful completion you will be able to:

- Evaluate the higher-order neural processes required for the generation of movement, sensation, cognitive function and the maintenance of homeostasis.
- Appraise the pathological consequences that result from disruption to the central processing of movement, sensation, cognitive function and maintenance of homeostatic function.

## Hot Topic Debate

Assessment Type <sup>1</sup>: Debate

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **In class, Week 11 & 12**

Weighting: **15%**

An assessment that involves a team debate that critically evaluates a current and emerging area of neuroscience research. Group and individual performance will be assessed.

On successful completion you will be able to:

- Evaluate the higher-order neural processes required for the generation of movement, sensation, cognitive function and the maintenance of homeostasis.
- Appraise the pathological consequences that result from disruption to the central processing of movement, sensation, cognitive function and maintenance of homeostatic function.
- Critique the role of discovery in advancing the field of neuroscience in both a clinical and

medical research setting.

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **Exam period**

Weighting: **40%**

Formal written exam using a combination of question types assessing content delivered across the session. This task is completed under examination conditions during the University examination period.

On successful completion you will be able to:

- Evaluate the higher-order neural processes required for the generation of movement, sensation, cognitive function and the maintenance of homeostasis.
- Appraise the pathological consequences that result from disruption to the central processing of movement, sensation, cognitive function and maintenance of homeostatic function.
- Critique the role of discovery in advancing the field of neuroscience in both a clinical and medical research setting.

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<sup>1</sup> 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.

<sup>2</sup> 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

As a student enrolled in this unit, you will engage in a range of face-to-face and online learning activities, including lectures, tutorials, practical classes, online modules, and readings. Details can be found on the iLearn site for this unit.

### Technology Used

Active participation in the learning activities throughout the unit will generally 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.

## Required Unit Materials

All students are required to wear closed shoes to attend neuroanatomy and neurophysiology practicals

## Recommended Readings

Unit readings for this unit are available via the university library website.

The recommended texts for this unit include:

1. Kandel, E., Schwartz, J., Jessell, T., Siegelbaum, S., Hudspeth, J., Principles of Neural Science (5<sup>th</sup> Ed). McGraw-Hill Education - Europe
2. Bear, M.F., Connors, B.W., Paradiso, M.A., Neuroscience. Exploring the Brain (4th Ed). Wolters Kluwer.
3. Crossman, A., & Neary, D., Neuroanatomy: an Illustrated Colour Text (5th Ed). Churchill Livingstone

## Unit Schedule

Week 1 - Neuronal Development

Week 2 - Visceral Nervous system

Week 3 - Somatosensation

Week 4 - Hearing

Week 5 - Vision

Week 6 - Sensorimotor Control

Week 7 - (no lectures) Mid semester Exam

BREAK

Week 8 - Movement

Week 9 - Language

Week 10 - Reward & Substance Use

Week 11 - Sleep & Wake

Week 12 - Memory & Amnesia

Week 13 - (no lectures)

Week 14 - Final exam

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policie](https://policie)

[s.mq.edu.au](https://www.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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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 the 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.

## Professionalism in anatomy education

The study of human anatomy at Macquarie University is governed by the Anatomy Act (1977) and students are admitted to the anatomy laboratories on the proviso that they comply with all relevant legislation. It is important that this includes respect and professionalism in your dealings with human material and your interactions with your colleagues and members of the public. Donating one's body to science is an act of selflessness and generosity that contributes greatly to advancing medical research and education. It behoves us all, therefore, to treat the donations with the utmost care, respect, and professionalism. Failure to do so not only can result in serious reputation consequences for you and the University, but can result in suspension, expulsion and possible imprisonment. Please behave professionally at all times and treat our valuable human anatomy teaching resources with the utmost care and respect.