



# MEDI2300

## Nervous System

Session 1, 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

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Course Director

Marina Junqueira Santiago

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Credit points

10

Prerequisites

40cp at 1000 level or above including HLTH108 or ANAT1001

Corequisites

Co-badged status

Unit description

This unit will provide you with an introductory understanding of the nervous system. This unit integrates both anatomy and physiology allowing you to learn about how the nervous system is organised and communicates information with a particular focus on the production of movement, processing of sensory information, regulation of homeostatic function and the basics of learning and memory. You will also be introduced to drug classes that positively and negatively affect the functioning of the nervous system and the clinical consequences that arise from pathological changes to the nervous system. Key learning activities will include lectures, tutorial and practical sessions.

## 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:** Describe the general organisation of the nervous system and how communication occurs within the nervous system.

**ULO2:** Identify the brain structures critical for movement, sensation, homeostatic function, and learning and memory.

**ULO4:** Outline the mechanism of action of specific drug classes that affect the functioning of the nervous system.

**ULO3:** Discuss how the nervous system produces movement, processes sensory information, regulates homeostatic function and consolidates learning and memory.

**ULO5:** Identify how common pathological conditions affect neural control of movement, sensation, homeostatic function and/or learning and memory.

## 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 Submission

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 11.55 pm. 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.

## 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](https://ask.mq.edu.au).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Final Exam</a>	50%	No	Exam Period
<a href="#">Anatomy Test</a>	20%	No	Week 12
<a href="#">Learning Resource</a>	15%	No	Multiple weeks
<a href="#">Quiz</a>	15%	No	Multiple weeks

### Final Exam

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

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

Due: **Exam Period**

Weighting: **50%**

On-campus formal exam assessing content delivered across the session taken during the University examination period.

On successful completion you will be able to:

- Describe the general organisation of the nervous system and how communication occurs within the nervous system.
- Identify the brain structures critical for movement, sensation, homeostatic function, and learning and memory.
- Outline the mechanism of action of specific drug classes that affect the functioning of the nervous system.
- Discuss how the nervous system produces movement, processes sensory information,

regulates homeostatic function and consolidates learning and memory.

- Identify how common pathological conditions affect neural control of movement, sensation, homeostatic function and/or learning and memory.

## Anatomy Test

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

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

Due: **Week 12**

Weighting: **20%**

On-campus test assessing material covered in and related to anatomy practical sessions.

On successful completion you will be able to:

- Describe the general organisation of the nervous system and how communication occurs within the nervous system.
- Identify the brain structures critical for movement, sensation, homeostatic function, and learning and memory.
- Discuss how the nervous system produces movement, processes sensory information, regulates homeostatic function and consolidates learning and memory.

## Learning Resource

Assessment Type <sup>1</sup>: Creative work

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Multiple weeks**

Weighting: **15%**

A two-part assessment where students (1) create a collection of learning resources that are made available to their peers to assist with their learning and (2) engage with the learning resources created by their peers.

On successful completion you will be able to:

- Describe the general organisation of the nervous system and how communication occurs within the nervous system.
- Identify the brain structures critical for movement, sensation, homeostatic function, and learning and memory.

- Outline the mechanism of action of specific drug classes that affect the functioning of the nervous system.
- Discuss how the nervous system produces movement, processes sensory information, regulates homeostatic function and consolidates learning and memory.
- Identify how common pathological conditions affect neural control of movement, sensation, homeostatic function and/or learning and memory.

## Quiz

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Multiple weeks**

Weighting: **15%**

Weekly, low-stakes, open-book quiz covering learning material for the week and prepares students for in-class activities. Top six test results count towards final mark.

On successful completion you will be able to:

- Describe the general organisation of the nervous system and how communication occurs within the nervous system.
- Identify the brain structures critical for movement, sensation, homeostatic function, and learning and memory.
- Outline the mechanism of action of specific drug classes that affect the functioning of the nervous system.
- Discuss how the nervous system produces movement, processes sensory information, regulates homeostatic function and consolidates learning and memory.
- Identify how common pathological conditions affect neural control of movement, sensation, homeostatic function and/or learning and memory.

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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 online and/or face-to-face learning activities, including readings, online modules, tutorial, videos and lectures. Details can be found on the iLearn site for this unit.

### Recommended Readings

There are many textbooks available that cover the topics included in this unit. Have a look around which style and delivery works best for you. As a general recommendation we will refer to Bear Connor & Paradiso - Exploring the Brain in this unit.

### 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.

Details can be found on the MEDI2300 iLearn site.

## Unit Schedule

Week	Lecture Topic	Scheduled Learning Activity	Assessment Task
1	Introduction	Tutorial	None
2	Organisation of the Nervous System	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz
3	Cells of the Nervous System	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz
4	Membrane Potential	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz
5	Action Potential	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz
6	Neurotransmission	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz, Learning Resource Submission
7	Special Senses I	Online Lecture, Tutorial, Practical	Online Lecture, Practical, Tutorial, Weekly Quiz
8	Special Senses II	Online Lecture, Tutorial	Online Lecture, Practical, Tutorial, Weekly Quiz, Learning Resource Submission
9	Somatosensation	Online Lecture, Tutorial, Practical	Online Lecture, Practical, Tutorial, Weekly Quiz, Learning Resource Submission
10	Movement	Online Lecture, Tutorial, Practical	Online Lecture, Practical, Tutorial, Weekly Quiz, Learning Resource Submission
11	Homeostasis	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz

Week	Lecture Topic	Scheduled Learning Activity	Assessment Task
12	Learning and Memory	Online Lecture, Tutorial	Online Lecture, Tutorial, Weekly Quiz, Practical Test, Learning Resource Submission
13	Revision	Online	Learning Resource Submission

## 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](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 an](#)



[d 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 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.