ANAT2004

Neuroanatomy

Session 2, Weekday attendance, North Ryde 2021

Department of Chiropractic

Contents

Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.

General Information

Unit convenor and teaching staff
convenor
Stephney Whillier
stephney.whillier@mq.edu.au
Contact via 9850 9387
17WW 356
by appointment

Credit points
10

Prerequisites
HLTH108 or ANAT1001 or COGS1000

Corequisites

Co-badged status

Unit description
This unit builds on the basic anatomy taught in ANAT1001. It focuses on the structure and function of the nervous system. The unit utilises an integrated approach within which relevant gross anatomy, histology and embryology, as well as clinical and applied anatomy are incorporated.

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 in detail the organisation, structure and interconnected function of the nervous system

ULO2: Relate your structural knowledge of the nervous system to its embryological development.

ULO3: Trace somatic and autonomic sensory and motor pathways

ULO4: Extend your acquired knowledge of neuroanatomy to discuss, evaluate and interpret clinical case studies and published research.

ULO5: Show that you are competent in analysing, interpreting and assessing relevant anatomical structures on images, photographs, bones, models, prosections, normal radiographs, MRI and CT scans.

ULO6: Show an appreciation and respect for those who have bequeathed their bodies to research

General Assessment Information

ASSESSMENT IN THIS UNIT

In order to pass this unit, you are required to obtain at least a 50% raw grade

Task	Weight	Due Date	Linked Learning Outcomes
Online quizzes (9)	25%	Weeks 3 - 7, 9 - 12	1 - 4
Attendance, and Participation Task	10%	Weekly	1 - 6
Practical exam on campus	20%	Week 12	1, 5, 6
Final theory exam (venue on campus)	45%	TBA	1 - 4

Assessment Tasks Description

1. Nine (9) quizzes: to be completed online in WEEKS 3, 4, 5, 6, 7, 9, 10, 11, 12 that will test **lecture** material of the previous week/s. See the schedule above for details on content that is covered by looking at the previous week/s lecture content.

The format will be multiple choice questions or fill in the missing word/s. Each quiz will open on Monday at 8am and close on Sunday at 11pm. The first quiz will be posted on Monday of week 3. There will be **absolutely no opportunity** to submit a quiz after the closing time as answers are released at that point. If you have technical difficulties, email your answers to your convenor and they will be manually marked. If you email these after the closing time, they will not be marked.

The resultant mark will be an **AVERAGE of the 9 quiz marks (please note, NOT best x of 9)**.

2. Attendance, and Participation Task: Weekly attendance and participation in both practicals and tutorials will be recorded (2%). In addition, students will present a short presentation in the tutorial (8%).

Presentation: A **strictly** two-minute lesson in the tutorial on any one small aspect of the previous week's lecture content. The intent is to TEACH the concept in your own words, simply, in any

creative way to make your audience understand it. You can use powerpoint, the whiteboard, props/models you make, music, dance, movement – anything you like to ensure the meaning is clear. Please be sure to consult the rubric to see how marks are allocated for this task. The presentation must fit into 2 minutes, and will be stopped at 2 minutes. Note that 4% of this mark comes from peer evaluation, and 4% from the tutor's evaluation.

Assessed	Unsatisfactory (mark: 0 – 1)	Satisfactory (mark: 2)	Good (mark: 3)	Excellent (mark: 4)
Presented Information	Presented content is mostly or completely incorrect	Content has some large mistakes	Content mostly correct with a few small mistakes	All presented information is correct
Choice of topic	A simple topic not conveyed simply or not in own words	A simple topic conveyed simply and in own words	A difficult or complex topic not conveyed simply or not in own words	A difficult or complex topic told simply in own words
Originality and creativity	No use of aids to enhance meaning no attempt at originality or creativity	Some originality and creativity shown, but does not enhance meaning or understanding	Originality and creativity good, with moderate enhancement of understanding	Very original and creative, and all aspects add to the understanding
Meaning and understanding	Not understandable	Somewhat understandable	Understandable	Very understandable
Overall presentation	Unsatisfactory	Satisfactory	Good	Excellent

Total/20

3. Final examination: This will cover the content of the entire semester. It tests knowledge of the theory, and the ability to connect that knowledge to real life situations (e.g. case studies). It will consist of a 2 hour written exam with multiple choice questions and short answer questions.

4. Practical test: All identification activities conducted during the practical class are examinable, and include identifying structures on images, bones, models, prosections, radiographs, MRI and

CT images. A written examination.

Late submissions will receive a 5% per day penalty including weekends and public holidays. If you submit the assessment task 10 days or more beyond the due date, without an approved extension, you will be awarded a maximum of 50% of the overall assessment marks.

Examinations

The University Examination period in for Semester 2 is from the 8-26 November, 2021. You are expected to present yourself for examination at the time and place designated in the University examination timetable. The timetable will be available in draft form approximately eight weeks before the commencement of the examinations and in final form approximately four weeks before the commencement of the examinations: http://www.timetables.mq.edu.au/exam

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for special consideration. The University's Special Consideration Policy can be found at https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration. Information can also be found at https://students.mq.edu.au/study/my-study-program/special-consideration

Students with a pre-existing disability/health condition or prolonged adverse circumstances may be eligible for ongoing assistance and support. Such support is governed by other policies and may be sought and coordinated through Campus Wellbeing and Support Services.

If a supplementary examination is granted as a result of special consideration, the examination will be scheduled after the conclusion of the official examination period.

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. You can check the supplementary exam information page on FSE101 in iLearn (bit.ly/FSESupp) for dates, and approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. You are expected to ensure that you are available until the end of the teaching semester that is the final day of the official examination period.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly tutorial participation task	10%	No	weekly as per assigned tutorial time
Final Written Examination	45%	No	During official exam period
Practical Spot Exam	20%	No	week 12
Tutorial quizzes	25%	No	weeks 3-7, 9-12

Weekly tutorial participation task

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 10 hours
Due: **weekly as per assigned tutorial time**
Weighting: **10%**

Students will present a short presentation in tutorial, and this plus their weekly participation in the tutorials constitutes the participatory task

On successful completion you will be able to:

- Describe in detail the organisation, structure and interconnected function of the nervous system
- Relate your structural knowledge of the nervous system to its embryological development.
- Trace somatic and autonomic sensory and motor pathways
- Extend your acquired knowledge of neuroanatomy to discuss, evaluate and interpret clinical case studies and published research.
- Show that you are competent in analysing, interpreting and assessing relevant anatomical structures on images, photographs, bones, models, prosections, normal radiographs, MRI and CT scans.
- Show an appreciation and respect for those who have bequeathed their bodies to research

Final Written Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 35 hours
Due: **During official exam period**
Weighting: **45%**

This will cover the content of the entire semester.

On successful completion you will be able to:

- Describe in detail the organisation, structure and interconnected function of the nervous system
- Relate your structural knowledge of the nervous system to its embryological development.
- Trace somatic and autonomic sensory and motor pathways
- Extend your acquired knowledge of neuroanatomy to discuss, evaluate and interpret clinical case studies and published research.

Practical Spot Exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 10 hours
Due: **week 12**
Weighting: **20%**

Practical examination assessing knowledge of the nervous system by identifying structures on models, prosections, images, bones, radiographs, MRI and CT images. A written examination.

On successful completion you will be able to:

- Describe in detail the organisation, structure and interconnected function of the nervous system
- Show that you are competent in analysing, interpreting and assessing relevant anatomical structures on images, photographs, bones, models, prosections, normal radiographs, MRI and CT scans.
- Show an appreciation and respect for those who have bequeathed their bodies to research

Tutorial quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 20 hours
Due: **weeks 3-7, 9-12**
Weighting: **25%**

Weekly short quizzes

On successful completion you will be able to:

- Describe in detail the organisation, structure and interconnected function of the nervous system

- Relate your structural knowledge of the nervous system to its embryological development.
- Trace somatic and autonomic sensory and motor pathways
- Extend your acquired knowledge of neuroanatomy to discuss, evaluate and interpret clinical case studies and published research.

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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

Delivery mode

This unit involves some essential on-campus learning activities which will be delivered in accordance with a COVID Safe plan. You will be expected to attend relevant on-campus activities unless the Public Health Order and/or University advice changes.

This unit is characterised by a moderate degree of flexibility. It incorporates a variety of learning tools and media. It will comprise:

1. 1 × 2h lecture and 1 × 1 hour lecture per week, weeks 1 - 12
2. 1 laboratory practical class per week, weeks 2 - 12: Students must register for a practical slot on e-student
3. 1 × 1 hour tutorial class per week, weeks 2 - 12: Students must register for a tutorial slot on e-student
4. 2 – 3 hours per week revision, completing the weekly Revision tasks in the laboratory manual, preparing for the laboratory practical and tutorial, self-instructional learning and readings from the text.

Class times and locations

1. **Online** Lectures: Tuesday 8- 10am **and** Wednesday 1 – 2pm
2. **On campus** Practicals: *Choose **one** of the following:* Monday 10 – 12am, 12 – 2pm, 2 – 4pm, 4 – 6pm; OR Tuesday 10 – 12am, 12 – 2pm, 2 – 4pm, in 02TP G37 Lab.
3. **On campus** Tutorials: Choose one of the following: Monday 2 – 3pm (6 Eastern Road,

314) or 4 – 5pm (9 WW, 131); OR Wednesday 10 – 11am (12 Second Way, 201) or 11 – 12am (12 Second Way, 201) or 12 – 1pm (12 Second Way, 201) or 2 – 3pm (12 Second Way, 310) or 3 – 4pm (12 Second Way, 310) or 4 – 5pm (12 Second Way, 301)

Unit Web Page

You can log in to iLearn System through **http://learn.mq.edu.au**

All lectures materials will be posted on iLearn. The Audiovisual recording will be available on ECHO on iLearn.

Required and recommended resources

Required:

- Haines, DE (latest edition) *Neuroanatomy, An Atlas of Structures, Sections, and Systems*. Wolters Kluwer/Lippincott Williams & Wilkins
- ANAT2004 *Laboratory Course Manual* – available as a download on iLearn

Recommended:

- Krebs C, Weinberg J and Akesson E (2012) Lippincott's Illustrated Reviews Neuroscience Harvey RA (series editor) Wolters Kluwer LWW
- Kiernan, JA (2009) *Barr's The Human Nervous System An Anatomical Viewpoint*. 9th ed. Wolters Kluwer/Lippincott Williams & Wilkins, PA
- Blumenfeld H (2002) *Neuroanatomy through Clinical Cases*. Sinauer Associates Inc, Massachusetts.

A note about textbooks:

Textbooks for this unit can be purchased online from Booktopia **https://www.booktopia.com.au/coop**

The list of Macquarie University S2 2021 units and texts can be found on the **Booktopia website**.

Websites:

An excellent website for anatomy is now available on our Macquarie University library website. Go to Databases, choose the subject 'Chiropractic' and click on 'Anatomy.tv' for **Wolterskluwer Ovid Primal Pictures Interactive Anatomy**

Unit Schedule

Date of Monday of each week	LECTURES (Tuesday and Wednesday)	PRACTICALS	TUTORIALS
Week 1 Monday, July 26	Overview of nervous system Overview of the spinal cord and blood supply	None	None
Week 2 Monday, August 2	Ontogeny Cerebral cortex and blood supply	Spinal Cord and blood supply	Group work on Organisation of the Nervous System Case study on spinal cord
Week 3 Monday, August 9	Diencephalon and Internal Capsule Limbic system	Overview of cerebral cortex, and blood supply	Cerebral Cortex Activity and Case Study Ontogeny Activity
Week 4 Monday, August 16	Basal ganglia	Diencephalon, Internal Capsule and limbic system	Internal capsule activity Case study on Thalamus
Week 5 Monday, August 23	Brainstem	Basal ganglia	Group work and case study on basal ganglia
Week 6 Monday, August 30	Cranial Nerves	**No Practical**	Brainstem discussion and case study
Week 7 Monday, September 6	Special senses	Brainstem and Cranial Nerves	Discussion and case study on cranial nerves
September 13 – 24	MIDSEMESTER BREAK		
Week 8 Monday, September 27	Cerebellum	Special Senses	Radiology and Case studies on special senses
Week 9 Tuesday, October 5	Plexuses and peripheral nerves	**Labour Day – no practicals**	**Labour Day – no tutorials**
Week 10 Monday, October 12	ANS	Cerebellum, Plexuses and peripheral nerves	Group work and case studies on cerebellum and on peripheral nerves
Week 11 Monday, October 19	Sensory afferent pathways	ANS and Revision	Case studies on ANS
Week 12 Monday, October 26	Motor efferent pathways	Practical Spot Test	Sensory afferent pathways activities

Week 13 Monday, Nov 2	None	None	Activity and case study on motor pathways

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
- Grade Appeal Policy
- Complaint Management 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

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 since First Published

Date	Description
14/07/2021	THe following has been added This unit involves some essential on-campus learning activities which will be delivered in accordance with a COVID Safe plan. You will be expected to attend relevant on-campus activities unless the Public Health Order and/or University advice changes.