ANAT2004

Neuroanatomy

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

Department of Chiropractic

Contents

General Information

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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.

General Assessment Information

Assessment Tasks Description

1. Quizzes: Weekly online quizzes that will test **lecture** material of the previous week/s. See the schedule for details on content that is covered. Quiz questions are MCQ, true/false or fill in the missing word.

2. 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. Please be sure to consult the rubric to see how marks are allocated for this task.

3. Practical spot tests: A short spot test each week conducted in the practical class on the work covered in the previous week's practical session. Only the top three marks will be averaged for this assessment mark. This means doing these spot tests is greatly a part of formative assessment for students, and not all the spot tests need to be done, but students must be aware that at least three need to be done to contribute to the final mark for this assessment.

4. Practical spot exams: 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.

5. 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, short answer questions and case studies.

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

Assessment Tasks

Name	Weighting	Hurdle	Due
Practical Spot Tests	10%	No	Weeks 3 - 6, 8, 10, 11
Quizzes	20%	No	weekly
Presentation	10%	No	Allocated during tutorial time
Final Written Examination	40%	No	During official exam period
Two Practical Spot Exams	20%	No	Week 7 and 13

Practical Spot Tests

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 4 hours
Due: **Weeks 3 - 6, 8, 10, 11**
Weighting: **10%**

A short weekly spot test conducted in the practical class on the work covered in the previous week's practical session to prepare the student for the final practical exams. The top three tests will be averaged for the assessment mark, with the remainder of assessments scored for the purpose of formative learning and feedback

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.

Quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 18 hours
Due: **weekly**
Weighting: **20%**

Students complete online weekly quizzes based on the previous week's lectures.

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.

Presentation

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 6 hours
Due: **Allocated during tutorial time**
Weighting: **10%**

Students will present a short presentation in the tutorial on a chosen aspect of unit content

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.

Final Written Examination

Assessment Type [1]: Examination
Indicative Time on Task [2]: 29 hours
Due: **During official exam period**
Weighting: **40%**

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.

Two Practical Spot Exams

Assessment Type [1]: Examination
Indicative Time on Task [2]: 10 hours
Due: **Week 7 and 13**
Weighting: **20%**

Two practical examinations assessing knowledge of the nervous system by identifying structures on models, prosections, images, bones, radiographs, MRI and CT images.

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.

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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

As a student enrolled in this unit, you will engage in a range of online and face-to-face learning activities, including face-to-face practicals, face-to-face tutorials, readings, and online PowerPoint and pre-recordings of lectures. Details can be found on the iLearn site for this unit. All lecture materials will be posted on iLearn. The Audiovisual recording will be available on ECHO which can be found on iLearn.

Recommended Readings are detailed in the manual which can be downloaded from iLearn.

Activities will comprise:

1. 1 × 2h pre-recorded lecture and 1 × 1 hour pre-recorded lecture per week, available on ECHO, weeks 1 - 12
2. 1× 2h 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 Haines Atlas reading tasks in the laboratory manual, preparing for the laboratory practical and tutorial, self-instructional learning and readings from the text.

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.

Class times and locations

1. **Online Pre-recorded** Lectures***:*** Tuesday 9 – 11am **and** Wednesday 4 - 5pm
2. **On campus** Practicals: *Choose **one** of the following:* Monday 8:30 – 10:30, 10:30 – 12:30, 12:30 – 2:30; 2:30 – 4:30, 4:30 – 6:30 OR Tuesday 8:30 – 10:30, 10:30 – 12:30, 12:30 – 2:30
3. **On campus** Tutorials: *Choose **one** of the following*: Wednesday 9 – 10, 10 – 11, 11- 12 (12 Second Way, 225), 1 – 2 (11WW, 230), 2 - 3 (11WW, 130); OR Thursday 9 – 10, 10

– 11, 11 – 12 (8SCO, 115), 12 – 1 (12 Second Way, 232), 1 -2 (12 Second Way, 304).

Note that venues are subject to change, so please consult estudent for up-to-date venues.

Unit Web Page

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

Required and recommended resources

Required:

- Haines DE (2018) Neuroanatomy Atlas in Clinical Context, Structures, Sections, Systems and Syndromes. 10th ed. LWW
- 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 2023 units and texts can be found on the **Booktopia website**.

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.