

# MEDI 7055 MR NEUROLOGY - HEAD, NECK AND SPINAL IMAGING

**Credit Points** 10

**Legacy Code** 401325

**Coordinator** James Nol ([https://directory.westernsydney.edu.au/search/name/James Nol/](https://directory.westernsydney.edu.au/search/name/James%20Nol/))

**Description** MR Neurology ♦Head, Neck and Spinal♦ Imaging is a core unit in the course of Advanced Imaging (MRI). The unit provides students with in-depth knowledge of neuro-anatomy and the relevant protocols to create Magnetic Resonance Imaging (MRI) sequences for the anatomical regions in the Head, Neck and Spinal Region for different clinical examinations. It is expected that students will develop the ability to recognise normal anatomy, identify common pathologies to provide diagnostic solutions and/or develop new MRI algorithms for clinical problems. They will have the ability to either produce, request or recommend the proper sequence and the best method of operating MRI equipment for the anatomical region in question. The subject is offered to all eligible students with a varied pathway for the two weeks clinical component relevant to their undergraduate discipline. Students will have 2 weeks of clinical training in an MRI clinical site.

**School** Medicine

**Discipline** Radiology

**Student Contribution Band** HECS Band 3 10cp

Check your fees via the Fees ([https://www.westernsydney.edu.au/currentstudents/current\\_students/fees/](https://www.westernsydney.edu.au/currentstudents/current_students/fees/)) page.

**Level** Postgraduate Coursework Level 7 subject

**Pre-requisite(s)** MEDI 7051 Evidence Based Imaging and Clinical Pathways  
MEDI 7057 MRI Physics

## Restrictions

Students must be enrolled in 4767 Master of Advanced Imaging (MRI) or 4768 Graduate Diploma of Advanced Imaging (MRI).

## Learning Outcomes

On successful completion of this subject, students should be able to:

1. Examine sectional neuro-anatomy that can be produced on Magnetic Resonance Imaging (MRI) equipment
2. Critique Neurology scanning principles and their common applications for different clinical problems
3. Set up departmental neurology MRI protocols
4. Present new MRI imaging algorithm and techniques to peers and health professionals
5. Critique the use of the different equipment design for MRI imaging and the different MR frequencies required to achieve the best outcome for the patient
6. Review Neurology cases to provide image Interpretation with high-level diagnostic confidence
7. Critique Clinical and Operational pathways focusing on efficiency, productivity and provision of access to patients to neurology imaging

## Subject Content

1. Anatomy of head, neck and spine to include spinal and plexuses scan, head scan, cranial nerve imaging, orbits and optic nerve, internal auditory meatus, sinuses, pituitary, skull base, temporal seizure protocol, temporomandibular joint, brain tumour imaging
2. Common pathology
3. Selection of appropriate sequences and imaging protocol setup.
4. The use of contrast medium, dosage, type and timing of image acquisition relevant to Head, Neck and Spinal Imaging.
5. Clinical Training via 3 different pathways:

- a. Medical Officer – Image Interpretation and observation of practical work and Interaction with an MRI team.
- b. Medical MRI Practitioner – Hands on Practical training and basic Image interpretation.
- c. Allied Health – Interaction with the MRI Operations team, close observation of the operation and patient management and basic Image interpretation.

## Special Requirements

Legislative pre-requisites

Note: Due to covid restriction, the Working with Children Check (WWCC) and Student Undertaking has been temporarily been removed.

### All Students

To be eligible to enrol in a subject and attend a NSW- located health-related placement in your program, students must meet Western Sydney University program requirements **and** Special Legislative Requirements to be assessed early in their second year of part-time study against the following:

1. National Criminal History Check: Students must have a current (expiring 4 years from date of issue) check valid for their entire program. A valid National Criminal history check must be an Australia wide check, include the student's full name matching their Student ID card and date of birth and not have any offences listed. If a student has a criminal history identified on their check, they must provide a Clinical Placement Authority Card (CPAC) or conditional letter from the NSW HealthShare Employment Screening and Review Unit.  
[https://www.health.nsw.gov.au/careers/student\\_clearance/Documents/appendix-10-student-application.pdf](https://www.health.nsw.gov.au/careers/student_clearance/Documents/appendix-10-student-application.pdf)  
International students must additionally have a translated International Police Check or statutory declaration.
2. A NSW Working with Children Check (WWCC) clearance letter issued under the category of volunteer valid for their entire course.
3. A current approved first aid certificate valid for their entire course, approved provider courses can be found at <http://training.gov.au>
4. A completed vaccination/immunisation card with all serology results containing expiry dates and currency must be maintained by the student to ensure compliance for their entire program.
5. NSW Undertaking/Declaration form.
6. Completed any additional health forms required (such as NSW Health Code of Conduct, Health Student Undertaking/Declaration and Tuberculosis (TB) Assessment Tool).
7. Relevant Local Health District specific documentation as requested. Contact your School for further details. Resources are also available on the Placement Hub ([https://www.westernsydney.edu.au/placements\\_hub/placements\\_hub/student\\_compliance/](https://www.westernsydney.edu.au/placements_hub/placements_hub/student_compliance/)) website. Where Clinical training is in a private setting, the special requirements may differ from public institutions; students will need to comply with requirements identified by their training organisation. Training for some students outside of NSW will be as per the state based requirements.

## Assessment

The following table summarises the standard assessment tasks for this subject. Please note this is a guide only. Assessment tasks are regularly updated, where there is a difference your Learning Guide takes precedence.

| Type              | Length             | Percent | Threshold | Individual/<br>Group Task | Mandatory |
|-------------------|--------------------|---------|-----------|---------------------------|-----------|
| Case Study        | 1,500 words        | 30      | N         | Individual                | Y         |
| Literature Review | 2,000 words        | 30      | N         | Individual                | Y         |
| Reflection        | 500 words each x 8 | 40      | N         | Individual                | Y         |

Teaching Periods

## Autumn (2025)

### Online

#### Online

**Subject Contact** James Nol ([https://directory.westernsydney.edu.au/search/name/James Nol/](https://directory.westernsydney.edu.au/search/name/James%20Nol/))

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=MEDI7055\\_25-AUT\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=MEDI7055_25-AUT_ON_2#subjects))