

# MEDI 7054 MR MUSCULOSKELETAL IMAGING (MSK)

**Credit Points** 10

**Legacy Code** 401326

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

**Description** MR Musculoskeletal "MSK" Imaging is a core subject in the course of Advanced Imaging (MRI). The subject provides students with in-depth knowledge of MSK anatomy and the relevant protocols to create Magnetic Resonance Imaging (MRI) sequences for MSK anatomical regions such as the knee, ankle and hip as well as the spine for different clinical examinations. It is expected that students will develop the ability to recognise normal anatomy, identify common pathologies and be able 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

**Level** Postgraduate Coursework Level 7 subject

**Pre-requisite(s)** MEDI 7051 AND MEDI 7049

## Restrictions

Students must be enrolled in 4767 Master of Advanced Imaging (MRI) or 4768 Graduate Diploma of Advanced Imaging (MRI) and have successfully completed 60 credit points.

## Learning Outcomes

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

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

## Subject Content

1. Anatomy of Musculo-Skeletal regions to cover:

- Lower Limb: pelvis, hip joint, knee, ankle, mid and forefoot imaging
- Upper Limb: shoulder, elbow, wrist, fingers and thumb imaging
- Long bones imaging; femur, tibia/fibula, humerus, radius and ulna bones
- Orthopaedic spinal imaging
- Common pathology

2. Selection of appropriate sequences and imaging protocol setup.  
3. Contrast and non-contrast Musculo-Skeletal imaging techniques.  
4. Clinical Training via 3 different pathways.

- Medical Officer - Image Interpretation and observation of practical work and Interaction with a Magnetic Resonance Imaging (MRI) team.
- Medical Radiation Practitioner - Hands on Practical training and basic Image interpretation.
- 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 restrictions the special requirements have been removed, July 2021.

## Special Requirements - NSW Health Legislative Prerequisites

### Student Compliance Information for all Health-Related Placements

**Prior to enrolling in this subject, students must have submitted a Student Undertaking Form and undertake to apply for a National Police Check, which is required to be submitted before placement, and a Working with Children Check Student Declaration. Use the link to the Special Requirements webpage below for more information.**

To be eligible to enrol in this subject and complete any required health-related placements or experiences, students must meet Western Sydney University program requirements as well as any special, legislated, or policy-mandated requirements.

## Western Program Requirements

Visit the Special Requirements webpage for details about your program.

Special Requirements ([https://www.westernsydney.edu.au/currentstudents/current\\_students/enrolment/special\\_requirements/](https://www.westernsydney.edu.au/currentstudents/current_students/enrolment/special_requirements/))

### Mandatory NSW Health student placement policy requirements

To be able to undertake placement in any NSW Health facility you must be assessed as compliant with NSW Health student placement policy in the first year of your program, regardless of when you expect to go on your first placement. Access and read the NSW Student Compliance Information Booklet.

NSW Student Compliance Information Booklet ([https://issuu.com/uwpublications/docs/wsu\\_student\\_compliance\\_booklet\\_2020\\_v6/](https://issuu.com/uwpublications/docs/wsu_student_compliance_booklet_2020_v6/))

Please ensure that you

1. Find your existing National Police Check or apply for one
2. Gather documentary evidence of your vaccination history

3. Print and complete all relevant NSW Health forms relevant to the campus you are enrolled at or online enrolment requirements
4. Follow booklet instructions on how to have your compliance documents assessed by NSW health staff.

International students have additional requirements; the link to the booklet will inform you of these requirements.

### School Requirements

Contact your School for further details regarding your School's requirements, if any, such as

- If you live outside of NSW or Australia and need to meet your state, territory or country's compliance requirements
- If you need to meet different state, territory or country compliance requirements.
- NSW Working with Children Check (WWCC) or other state equivalent, valid for your entire program.
- Current approved first aid certificate valid for your entire program - approved program providers can be found at the Government Training website
- <http://training.gov.au> (<http://training.gov.au>)
- Other non-health related requirements.

Student Compliance Resources are also available on the Placements Hub web page (NSW students only)

[https://www.westernsydney.edu.au/learning\\_futures/home/placements\\_hub/placements\\_hub/student\\_compliance](https://www.westernsydney.edu.au/learning_futures/home/placements_hub/placements_hub/student_compliance) ([https://www.westernsydney.edu.au/learning\\_futures/home/placements\\_hub/placements\\_hub/student\\_compliance](https://www.westernsydney.edu.au/learning_futures/home/placements_hub/placements_hub/student_compliance))

## 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.

Item	Length	Percent	Threshold	Individual/ Group Task
Case Study	1500 words	30	N	Individual
Literature Review	2000 words	30	N	Individual
Reflective Journal	500 words each x 8	40	N	Individual

Teaching Periods

## Spring

### 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/even/timetable/?subject\\_code=MEDI7054\\_22-SPR\\_ON\\_O#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=MEDI7054_22-SPR_ON_O#subjects))