

# MEDI 7052 MR ANGIOGRAPHY AND CARDIAC

**Credit Points** 10

**Legacy Code** 401329

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

**Description** The MR Angiography (MRA) and MR Cardiac (MRC) Imaging unit is a core unit in the course of Advanced Imaging (MRI). The subject provides students with in-depth knowledge of cardiac anatomy, the vascular system, and the relevant protocols to create MRI sequences for the anatomical regions of MRC and MRA in 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 the MRI equipment for the anatomical region in question. The subject is offered to students who completed the Graduate Diploma in Advanced Imaging (MRI) 4768, with a varied pathway for the 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 7055 MR Neurology - Head Neck and Spinal Imaging

MEDI 7054 MR Musculoskeletal Imaging

MEDI 7053 MR Body and Pelvis Imaging

**Restrictions**

Students must be enrolled in 4767 Master of Advanced Imaging (MRI) and have successfully completed 80 credit points.

## Learning Outcomes

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

1. Critically analyse sectional Magnetic Resonance –Cardiac (MRC) and Magnetic Resonance – Angiography (MRA) that can be produced on Magnetic Resonance Imaging (MRI) equipment.
2. Critique MRC and MRA scanning principles and their common applications for different clinical problems, and/or any proposed modification to suit individual patient's clinical needs.
3. Create departmental MRC and MRA Magnetic Resonance Imaging (MRI) protocols.
4. Propose new MRC and MRA imaging algorithm and techniques to peers and health professionals.
5. Review MRA and MRC clinical cases to provide image Interpretation with high-level diagnostic confidence.
6. Critique clinical and operational pathways focusing on efficiency, productivity and provision of access to patients to MRA and MRC imaging.
7. Reflect on clinical and operational pathways based on the MR Angiography and Cardiac imaging

## Subject Content

1. Sectional cardiovascular anatomy: Heart, valves, major coronary vessels, systemic vasculature of head and neck, body and peripheral vascular structures.
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.
5. Contrast and non-contrast Magnetic Resonance –Cardiac (MRC) and Magnetic Resonance – Angiography (MRA) techniques.
6. Advanced Cardiac Imaging: T1 & T2 Mapping, Late Gadolinium Enhancement (LGE), Perfusion
7. Clinical Training via 3 different pathways

- Medical Officer – Image Interpretation and observation of practical work and Interaction with an MRI team.

- Medical MRI 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 restriction, the Working with Children Check (WWCC) and Student Undertaking has been temporarily removed.

### Special Requirements - NSW Health Legislative Prerequisites Pre-requisites

#### 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/uwspublications/docs/wsu\\_student\\_compliance\\_booklet\\_2020\\_v6/](https://issuu.com/uwspublications/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

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

View timetable ([https://classregistration.westernsydney.edu.au/odd/timetable/?subject\\_code=MEDI7052\\_23-AUT\\_ON\\_2#subjects](https://classregistration.westernsydney.edu.au/odd/timetable/?subject_code=MEDI7052_23-AUT_ON_2#subjects))

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.

Type	Length	Percent	Threshold	Individual/ Group Task
Case Study	1,500 words	30	N	Individual
Literature Review	2,000 words	30	N	Individual
Reflection	500 words each x 8	40	N	Individual

Teaching Periods

## Autumn (2022)

### Online

#### Online

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View timetable ([https://classregistration.westernsydney.edu.au/even/timetable/?subject\\_code=MEDI7052\\_22-AUT\\_ON\\_0#subjects](https://classregistration.westernsydney.edu.au/even/timetable/?subject_code=MEDI7052_22-AUT_ON_0#subjects))

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