RADIOGRAPHY (RADI)

RADI 5001 Physics for Diagnostic Ultrasound (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi5001/)
This subject introduces students to ultrasound physics, a key area of knowledge for sonographers. They will learn about the essential physical principles that underpin ultrasound imaging, extending from the basic principles of sound waves through to emerging technologies and applications. This subject provides an essential basis for future study in the Graduate Diploma in Sonography (Cardiac or Vascular).
Level: Postgraduate Coursework Level 5 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 6001 Pathophysiology in Diagnostic Ultrasound (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi6001/)
This subject will develop a student's understanding of the abnormal anatomical features and pathophysiological processes that underpin frequently encountered diseases within both the Australian Indigenous and non-Indigenous populations in ultrasound practice. Common congenital, genetic and acquired diseases, alongside biofeedback mechanisms controlling homeostasis will be explored. Furthermore, the roles of key pharmacological agents for disease management will be examined.
Level: Postgraduate Coursework Level 6 subject
Pre-requisite(s): RADI 5001 - Physics for Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 6002 Research Foundations for Sonography (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi6002/)
Research Foundations in Sonography provides sonography students with foundational knowledge and experience in research. The subject is comprised of two modules: 1. Research Foundations. 2. Research Application. Module 1 includes topics such as evidence, research ethics and disseminating research. Module 2 includes quality assurance and research in the clinical context.
Level: Postgraduate Coursework Level 6 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7001 Advanced Principles and Practice of Cardiac Sonography (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7001/) Legacy Code: 401247
This subject is an essential part of the final year of the Masters in Cardiac Sonography. It will build on the student's knowledge and skills gained in prior units, as they select and study a contemporary cardiac ultrasound technology. Students are required to research and write a literature review about their chosen technology, and to evaluate their own use of the technology in clinical practice. In addition, students will have the opportunity to teach first year cardiac sonographers, and write a reflection on their teaching experience.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7009 AND
RADI 7005
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7002 Practice of Cardiac Sonography 1 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7002/) Legacy Code: 401189
In this subject, students will learn how to acquire and optimise ultrasound images and to make key measurements. They will learn to draw conclusions about cardiac anatomy and function based on images and measurements and will develop their professional and ethical skills by learning how to plan and implement a cardiac ultrasound scan in a safe and ethical manner. The skills and knowledge learnt in this subject, which includes a work-integrated learning component, provide foundational skills in cardiac sonography.
Level: Postgraduate Coursework Level 7 subject
Co-requisite(s): RADI 5001 - Physics for Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7003 Practice of Cardiac Sonography 2 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7003/) Legacy Code: 401190
In this subject, students will develop their image acquisition, optimisation and measurement skills. They will learn to perform more extensive cardiac sonographic scan and will further develop their professional and ethical attributes. This subject, which includes a work-integrated learning component, will ensure the consolidation of foundational skills, knowledge and attributes.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 5001 - Physics for Diagnostic Ultrasound
RADI 7002 - Practice of Sonography 1 (Cardiac)
Co-requisite(s): RADI 6001 - Pathophysiology in Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7004 Practice of Cardiac Sonography 3 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7004/) Legacy Code: 401191
This subject aims to further develop students' understanding of the essential aspects of working in a clinical environment and to consolidate their imaging skills. Students will learn to how to image a variety of lesions and diseases, including common adult congenital heart defects, systemic diseases that affect the heart, pericardial and pulmonary diseases and cardiac masses. Considerable time will be spent in the clinical environment refining imaging techniques, and students will prepare an evaluation of their imaging skills. .
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7003
Co-requisite(s): RADI 7008
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7005 Practice of Cardiac Sonography 4 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7005/) Legacy Code: 401192
This subject aims to assure that students have gained adequate knowledge and skills to be able to practice competently, confidently and ethically as cardiac sonographers. Care for and communication with patients and colleagues, continual professional development (CPD) and exposure to advanced and leading edge imaging technologies will be given particular emphasis during this subject. Once more, considerable time will be spent in the clinical environment performing imaging skills and activities independently (as per special requirements).
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7004
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7006 Principles of Cardiac Sonography 1 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7006/) Legacy Code: 401185
In Autumn 2024, this subject replaced by RADI 5001 - Physics for Diagnostic Ultrasound. This subject introduces students to two key areas of knowledge for cardiac sonographers: 1) cardiac anatomy and physiology, and 2) ultrasound physics. Students will learn about the normal and abnormal anatomy and physiology of the human heart. They will also learn about the essential physical principles that underpin ultrasound imaging. This subject provides an essential basis for future study in the Graduate Diploma in Cardiac Sonography.
Level: Postgraduate Coursework Level 7 subject
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7007 Principles of Cardiac Sonography 2 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7007/) Legacy Code: 401186
This subject will build on the knowledge acquired in Principles of Cardiac Sonography 1, via a blend of theoretical and practical activities. The students' understanding of cardiac anatomy and physiology will be extended, and they will begin studying cardiovascular diseases. Aspects of ultrasound physics studied in this subject include identifying imaging artifacts, recognizing equipment limitations, and bio-effects and safety.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7006
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7008 Principles of Cardiac Sonography 3 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7008/) Legacy Code: 401187
In 2024, this subject replaced by RADI 6002 - Research Foundations for Sonography. This subject will extend the knowledge students have gained from Principles of Cardiac Sonography 2. Students will utilise their knowledge of normal and abnormal cardiac anatomy and physiology to study congenital and acquired heart lesions. They will examine systemic, pulmonary and pericardial diseases and cardiac masses, analyse data from basic echocardiogram measurements, and learn case study research skills by undertaking a case report. The university library's vast resources will provide an important aid to learning in this subject.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7007
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7009 Principles of Cardiac Sonography 4 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7009/) Legacy Code: 401188
In Spring 2025, this subject will be replaced by RADI - 7025 - Applied Cardiac Sonography. This subject aims to assure that students have gained adequate knowledge and skills to be able to practice competently and confidently as cardiac sonographers. Students will learn about more complex heart dis-ease and how to detect them by echocardiography and other imaging modalities. They will further devel-op their research skills and start contributing to the sonographic practice through conducting a case pro-ject and presenting the report to the professional audience. The university library's vast teaching and re-search resources will provide an important means for facilitating learning in this subject.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7008
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7010 Research Project in Cardiac Sonography (20 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7010/) Legacy Code: 401248
In 2021 this subject replaced by 401467 - Medical Research Project (PG). The primary aims of this subject are to: i. Design, and ii. Execute and complete, a research project based on the cardiac ultrasound technology chosen by the student in Advanced Principles and Practice of Cardiac Sonography. Successful completion of the subject results in the composition of a report, and in an oral presentation, which will include details of the aims, methods, results and conclusions of the project.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): HLTH 7008 AND
RADI 7001
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7011 Practice of Vascular Sonography 1 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7011/) Legacy Code: 401293
This subject introduces students to the practice of vascular sonography. Students will learn how to acquire and optimise ultrasound images and to make basic measurements. In addition, they will learn to draw conclusions about vascular anatomy and function based on the images and measurements; and they will develop their professional and ethical skills through learning how to plan for and implement a vascular ultrasound examination in a safe and ethical manner. The skills learnt in this unit, which includes a work-integrated component, provide well-rounded, foundation skills in vascular sonography.
Level: Postgraduate Coursework Level 7 subject
Co-requisite(s): RADI 5001
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7012 Practice of Vascular Sonography 2 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7012/) Legacy Code: 401295
Content in this subject will be an extension of the knowledge and skills developed in Practice of Sonography 1. Students will learn to perform more extensive vascular examinations and will develop their professional and ethical attributes. Learning in the subject, which includes a work-integrated learning component, will consolidate foundational vascular skills in vascular sonography.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 5001 - Physics for Diagnostic Ultrasound
RADI 7011 - Practice of Vascular Sonography 1
Co-requisite(s): RADI 6001 - Pathophysiology in Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7013 Practice of Vascular Sonography 3 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7013/) Legacy Code: 401297
This subject aims to further develop students' understanding of the essential aspects of working in a clinical environment and will help to consolidate their imaging skills. Students will learn how to image a variety of arterial and venous pathologies. Considerable time will be spent in the clinical environment refining imaging techniques, and students will prepare and evaluation of their imaging skills.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7012
Co-requisite(s): RADI 7017
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7014 Practice of Vascular Sonography 4 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7014/) Legacy Code: 401299
This subject aims to assure that students have gained adequate knowledge and skills to be able to practice competently, confidently and ethically as vascular sonographers. Care for and communication with patients and colleagues, continued professional development (CPD) and exposure to advance and leading edge imaging technologies will be given particular emphasis during this subject. Once more, considerable time will be spent in the clinical environment performing imaging skills and activities independently (as per special requirements)
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7013
Co-requisite(s): RADI 7018
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7015 Principles of Vascular Sonography 1 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7015/) Legacy Code: 401292
In Autumn 2024, this subject replaced by RADI 5001 - Physics in Diagnostic Ultrasound. In this subject, students will study two essential areas of knowledge for vascular sonographers: I. cardiovascular anatomy and physiology and II. ultrasound physics. The normal anatomy and physiology of the cardiovascular system, and the key physics principles utilized in ultrasound imaging will comprise the majority of the subject content. This subject provides an essential basis for future study in the Graduate Diploma in Vascular Sonography.
Level: Postgraduate Coursework Level 7 subject
Co-requisite(s): RADI 7011 - Practice of Vascular Sonography 1
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7016 Principles of Vascular Sonography 2 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7016/) Legacy Code: 401294
This subject builds on the knowledge acquired in Principles of Vascular Sonography 1, via a blend of theoretical and practical activities. Students' knowledge of general pathology principles will be extended, and they will also cover the principles of coagulation and atherosclerotic disease. Aspects of ultrasound physics studies in this subject include identifying imaging artefacts, recognizing equipment limitations and bio-effects and safety. Basic vascular pharmacology is also covered.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7015
Co-requisite(s): RADI 7011 - Practice of Vascular Sonography
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7017 Principles of Vascular Sonography 3 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7017/) Legacy Code: 401296
This subject will extend the student's knowledge of cerebrovascular and peripheral vascular arterial disease, along with thrombotic venous disease. Students will learn essential research skills, for which the university's vast learning resources will provide an important aid.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7016
Co-requisite(s): RADI 7013 - Practice of Vascular Sonography 3
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7018 Principles of Vascular Sonography 4 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7018/) Legacy Code: 401298
This subject aims to provide students with adequate knowledge and skills to practice competently and safely as vascular sonographers. Students will learn about more specialised diseases and how to detect them using ultrasound and other imaging modalities. Research skills will also be developed and students will start contributing to a wider sonographic practice by conducting a case project and presenting the report to the professional audience. The university library's vast teaching and research resources will provide an important means for facilitating learning in this subject.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7017
Co-requisite(s): RADI 7014 - Practice of Vascular Sonography 4
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7019 Practice of Obstetric and Gynecological (O&G) Sonography 1 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7019/)
This subject introduces students to the practice of obstetric and gynecological (O&G) sonography. Students will learn how to acquire and optimise transabdominal ultrasound images and make key measurements. They will learn to draw conclusions about fetal and maternal anatomy and function based on images and measurements. In addition, students will develop their professional and ethical skills by learning how to plan and implement O&G ultrasounds in a safe and ethical manner. The skills and knowledge learnt in this subject, which includes work-integrated learning, provide foundational clinical and professional skills in O&G sonography.
Level: Postgraduate Coursework Level 7 subject
Co-requisite(s): RADI 5001 - Physics for Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7020 Practice of Obstetric and Gynecological (O&G) Sonography 2 (10 Credit Points)
Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7020/)
In this subject, students will continue to develop their image acquisition, optimisation and measurement skills in O&G sonography. They will learn to perform a transvaginal examination to assess the gravid and non-gravid female pelvis. Critique of scanning protocols will allow students to deliver sonographic examinations that address a clinical indication. Students will investigate methods for conveying clinical information and maintaining patient confidentiality and privacy. An applied understanding of medical ethics, workplace health and safety, and reflection frameworks will enhance the provision of high-quality patient care. The subject, which includes a work-integrated learning component, will ensure the consolidation of foundational skills, knowledge and attributes.
Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7019 - Practice of Obstetric and Gynecological (OG) Sonography 1
Co-requisite(s): RADI 6001 - Pathophysiology in Diagnostic Ultrasound
Restrictions: Please see the Subject Details page for any restrictions for this subject

RADI 7021 Practice of Obstetric and Gynecological (O&G) Sonography 3

Subject Details (https://hbook.westernsydney.edu.au/subject-details/radi7021/)

In this subject, students will enhance their skills in image acquisition, optimisation, and measurement. They will learn to identify crucial features of fetal and maternal anatomy and physiology required to perform a comprehensive O&G sonographic assessment. Additionally, students will explore effective communication techniques for delivering adverse findings, managing workplace relationships, and meeting patient expectations. They will collaborate with peers and incorporate feedback to deliver a multimedia presentation to a professional audience with confidence. The subject also includes a work-integrated learning component to promote the development of skills, knowledge, and attributes.

Level: Postgraduate Coursework Level 7 subject
Pre-requisite(s): RADI 7020 - Practice of O G Sonography 2
Co-requisite(s): RADI 6002 - Research Foundations for Sonography
Restrictions: Please see the Subject Details page for any restrictions for this subject