

RADIOGRAPHY (RADI)

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 unit 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

This unit introduces students to the practice of cardiac sonography. Students learn how to acquire and optimise images and to make basic measurements. They will learn how to draw conclusions from the images and measurements, and to write a basic report. The skills learnt in this unit, which includes work integrated learning, provides students with the foundational skills in cardiac sonography.

Level: Postgraduate Coursework Level 7 subject

Co-requisite(s): RADI 7006

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

This unit will build on the knowledge and skills developed in Practice of Cardiac Sonography 1. Students will learn to perform a more extensive echocardiographic examination as they study measuring left ventricular systolic and diastolic function, and are introduced to assessing valvular function. Image interpretation, report writing, and essential aspects of professional practice will also be included in this unit.

Level: Postgraduate Coursework Level 7 subject

Pre-requisite(s): RADI 7002

Co-requisite(s): RADI 7007

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 unit 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 unit 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 unit. 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

This unit 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 unit 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 unit 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 unit 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

This unit 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 unit.

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

This unit 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 develop their research skills and start contributing to the sonographic practice through 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 unit.

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 unit replaced by 401467 - Medical Research Project (PG). The primary aims of this unit 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 unit 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 unit 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 cardiovascular anatomy and function based on the images and measurements, as well as learning how to write a basic report. The skills learnt in this unit, which includes work-integrated learning, provides foundational skills in vascular sonography.

Level: Postgraduate Coursework Level 7 subject

Co-requisite(s): RADI 7015

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

In this unit, students will build on the knowledge and imaging skills they developed in Practice of Vascular Sonography 1. Additionally, they will learn to perform non-imaging physiological measurements, and be introduced to treatment protocols for vascular patients to complement their understanding of pathology. Image interpretation, report writing and essential aspects of professional practice are also included in this unit.

Level: Postgraduate Coursework Level 7 subject

Pre-requisite(s): RADI 7011

Co-requisite(s): RADI 7016

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 unit 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 unit 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 unit. 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 this unit, 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 unit content. This unit 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 unit 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 unit 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 unit 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 unit 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 unit.

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