

## MEDI90049 Principles of Ultrasound Heart Scan

<b>Credit Points:</b>	12.5
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2015, Hawthorn This subject commences in the following study period/s: Semester 1, Hawthorn - Taught online/distance. Semester 2, Hawthorn - Taught online/distance. Course materials will be distributed via mail to students. The course is 1 semester full-time or 2 semesters part-time via distance education. A semester duration is 12 weeks. For students completing full-time there will be four subjects per semester, and for part-time, two subjects per semester. Subjects must be taken in sequence.
<b>Time Commitment:</b>	Contact Hours: Off-campus (online) delivery Total Time Commitment: 170 hours per 12.5 credit point subject.
<b>Prerequisites:</b>	To enrol in this subject, you must be admitted in either the Post Graduate Certificate or Post Graduate Diploma in Clinical Ultrasound. This subject is not available for students admitted in any other courses.
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	For the purposes of considering requests for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>
<b>Coordinator:</b>	Prof Colin Royse
<b>Contact:</b>	The University of Melbourne Faculty of Medicine, Dentistry and Health Sciences. Ultrasound Education Group Department of Surgery Level 6 Centre for Medical Research The Royal Melbourne Hospital Parkville, VIC 3050 <b>E: <a href="mailto:support@heartweb.com">support@heartweb.com</a> (mailto:support@heartweb.com)</b> T: +61 3 8344 5673 Website : <b><a href="http://www.heartweb.com.au">www.heartweb.com.au</a> (www.heartweb.com.au)</b>
<b>Subject Overview:</b>	This subject will outline a physics related to medical ultrasound use; an introduction to transthoracic echocardiography using the focused assessment technique HEARTscan (Haemodynamic Echocardiography Assessment in Real Time).

	<p>Topics include:</p> <ol style="list-style-type: none"> <li>1 the role of Echocardiography in Perioperative and Critical Care Medicine</li> <li>2 Optimising Ultrasound Images (Knobology)</li> <li>3 Physics/Modes of Ultrasound/Transducers</li> <li>4 Anatomy of the Heart</li> <li>5 Anatomy of the Valves</li> <li>6 Comprehensive Transthoracic Echocardiography Examination</li> <li>7 Basic Haemodynamic State Assessment</li> <li>8 HEARTscan Valves</li> <li>9 HEARTscan Case Studies</li> <li>10 Comprehensive Transoesophageal Echocardiography Examination Artefacts</li> </ol>
<b>Learning Outcomes:</b>	<p>The completion of the subject, students should:</p> <ol style="list-style-type: none"> <li>1 Understand the physics related to ultrasound generation</li> <li>2 Understand the different modes of ultrasound, including M-mode, two-dimensional imaging, Doppler ultrasound and colour flow mapping</li> <li>3 Understand transducer design principles</li> <li>4 Understand the basis of artefact generation</li> <li>5 Understand the basis of optimising ultrasound images</li> <li>6 Understand how to obtain transthoracic echocardiography images</li> <li>7 Understand basic assessment of haemodynamic state</li> <li>8 Understand basic valve assessment using colour flow and two-dimensional imaging</li> <li>9 Interpret and complete a HEARTscan study</li> <li>10 Review 20 HEARTscan studies</li> </ol>
<b>Assessment:</b>	<p>80% of assessment: one open-book multiple-choice examination consisting of 50 questions. Students will have 1 week to complete the examination during the assessment period at the end of the semester. 20% of the assessment: completion of self assessment modules at the end of each tutorial, progressively through the semester. These are completed in the workbooks issued to students and it is a requirement that these workbooks are signed and returned for assessment.</p>
<b>Prescribed Texts:</b>	<p>Royse C, Donnan G, royse A. Pocket Guide to Perioperative and Critical Care Echocardiography. 2006; McGraw-Hills</p>
<b>Recommended Texts:</b>	<p>Other materials will be provided as a package of readings, PowerPoint presentations and case studies.</p>
<b>Breadth Options:</b>	<p>This subject is not available as a breadth subject.</p>
<b>Fees Information:</b>	<p>Subject EFTSL, Level, Discipline &amp; Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a></p>
<b>Generic Skills:</b>	<ul style="list-style-type: none"> <li># Enhance time utilisation</li> <li># Improve written skills and problem solving skill</li> </ul> <p>All students are expected to have access to a computer that can operate a Windows platform or simulation.</p>
<b>Links to further information:</b>	<p><a href="http://www.heartweb.com.au">http://www.heartweb.com.au</a></p>
<b>Notes:</b>	<p>This subject is available to part-time and full-time students.  This subject is not available to Commonwealth Supported Students.  This subject is not available as breadth.  Administration is via e-mail</p>
<b>Related Course(s):</b>	<p>Graduate Certificate in Clinical Ultrasound  Graduate Diploma in Clinical Ultrasound  Master of Clinical Ultrasound  Postgraduate Certificate in Clinical Ultrasound</p>

Postgraduate Diploma in Clinical Ultrasound