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Australian Institute of Healthcare Education

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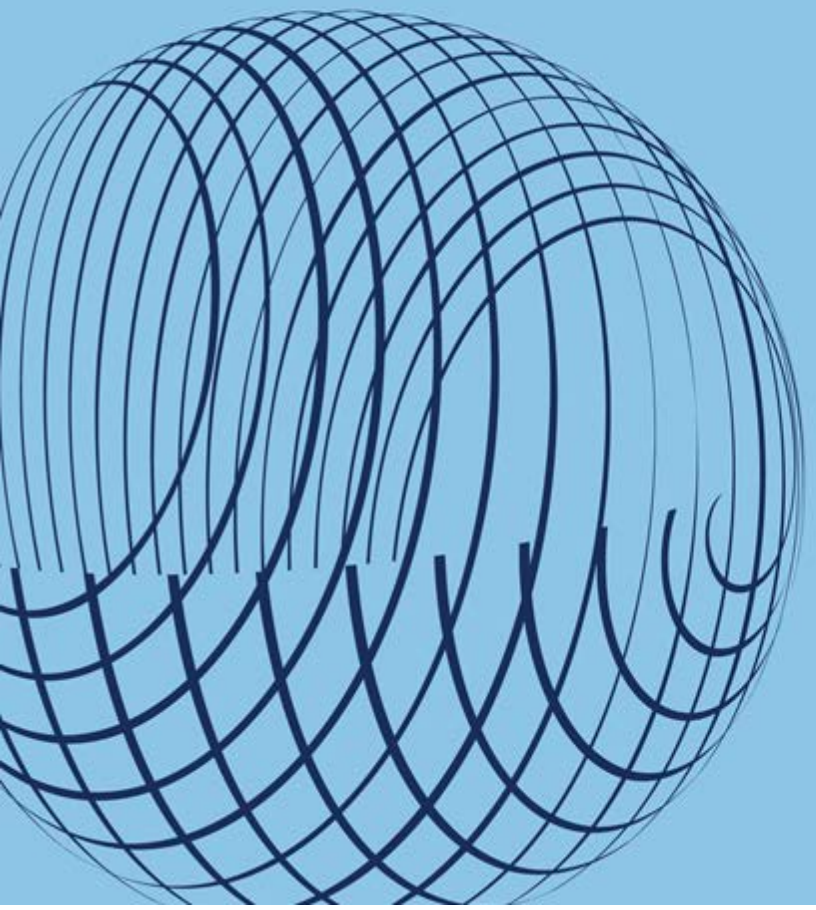

Student Information Guide

Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline)

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All individuals conducting work at, or on behalf of the Australian Institute of Healthcare Education (AIHE) must comply with all laws and regulations which apply to the company's operation. This includes adhering to all AIHE policies, protocols and procedures. It is the responsibility of all individuals to meet this obligation, know what the law requires and understand the importance of compliance. This policy/document may be altered, withdrawn or substituted at any time. Abidence with the poicy/documtn is mandatory of all students and individuals undertaking work/study, for on on behalf of, AIHE.

Introduction

The Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) is a full time, two year long, level 8 competency based qualification that will be delivered by the Australian Institute of Healthcare Education (AIHE) under the Vocational Education and Training Sector (VET) of the Australian Qualifications Framework (AQF). This Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) is at the same academic level as a Graduate Diploma of Ultrasound (General Discipline) offered by the higher education (university) sector.

Under the AQF guidelines the course is structured and delivered as units of competency which enables you to undertake holistic training and assessment. Upon graduation you will be able to actively work in the general ultrasound profession as an accredited medical sonographer (AMS).

Throughout this course you will focus on academic learning of the various units of competency as well as the development of the necessary clinical skills to become a competent sonographer that is work ready. Evidence based learning and practice, as well as critical thinking, are vital components of the approach to learning in the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline).

AIHE values

The Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) is an Australian Qualifications Framework (AQF) level 8 (post graduate) course and the Australian Institute of Healthcare Education (AIHE) has a primary focus of producing high quality ultrasound graduates that are employable in the demanding field of diagnostic medical ultrasound.

The main goals at AIHE are:

1. To ensure curriculum and training and assessment strategies are informed by research, current, relevant and rigorous, reflect innovation, inclusion, engagement and graduate attributes.
2. To demonstrate best practice in teaching and learning informed by research and demonstrated through strong academic leadership, sustained staff development, action research, recognition and reward.
3. To ensure learning is practice-oriented, industry integrated and contextualised through focus on transferability and employability.
4. To enhance learner engagement through accessible, supportive and effective learning environments.
5. To grow and develop strong learning communities within and across colleges, campuses and divisions.
6. To provide quality teaching learning environments supporting high levels of student satisfaction across the learner life cycle informed by stakeholder feedback.
7. To implement quality management processes and planning, supporting sustainable growth and enhanced academic outcomes based on accountability, transparent processes and continuous review cycles.

Role of a Sonographer

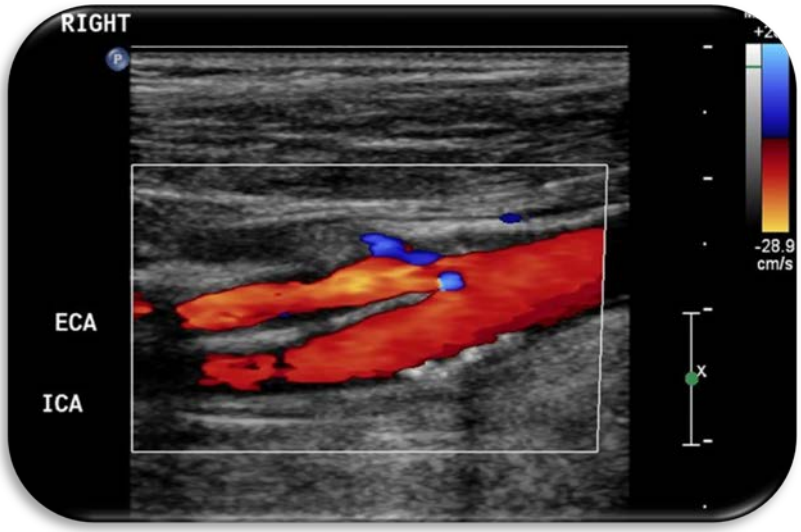
A diagnostic medical sonographer is a specialized diagnostic imaging practitioner, qualified by professional credentialing, who is able to demonstrate the high level of both academic knowledge and clinical experience needed to provide diagnostic patient care services using ultrasound. The scope of practice of the diagnostic medical sonographer includes those procedures, acts and processes, for which the individual has received education and clinical experience, has demonstrated competency, and has completed the appropriate certification(s) in their chosen field of ultrasound.

A diagnostic medical sonographer is a highly-skilled professional who uses specialized equipment to collect, and interpret dynamic and still images of structures inside the human body. Distinguishing and categorizing the appearance of both normal and abnormal findings. These images are collected, reported and reviewed by a Radiologist or other appropriately qualified medical physician to make a medical diagnosis. Sonographers operate in a semi-autonomous manner. The General Discipline of ultrasound at AIHE incorporates all types of sonographic examinations including those from the vascular, obstetric, abdominal and small parts disciplines, but excludes cardiac examinations.

Tasks & responsibilities of the Sonographer during an ultrasound examination

Sonographers have an extensive amount of contact with the patient from the moment that they enter the Department for their test; an examination can be outlined as follows:

1. After ascertaining the clinical indication for the examination, the sonographer greets the patient and records a clear medical history, whilst assisting with the set-up and positioning of the patient for scanning.
2. Operating the ultrasound machine requires the sonographer to be confident with their knowledge of the physical properties of ultrasound and its limitations and restrictions for use. As well as being skilled in the assessment of the patient (patient habitus, and result outcome), the sonographer is aware of the constant need for technical adjustment of the machine settings, and is able to perform these adjustments appropriately.
3. A high level of dexterity, and highly developed fine motor skills are essential in using the transducer to obtain images of the patient's internal organs. The transducer is the imaging equipment coupled to the patient's skin using gel which emits the high frequency sound waves and collects the returning echoes that form a digital image of the region of interest. Sound waves reflect and refract differently with different organ structures, and so differentiation is determined. Sonographers have highly developed pattern recognition and 3 dimensional (3D) conceptualisation skills.
4. Dynamic and still images are collected, and measured during the examination, and a preliminary report is generated by the sonographer which outlines the structures viewed, and attempts to answer the clinical question. In obstetric scanning, the use of Biometric Tables (ASUM) is employed to determine accurate gestational age. A physician will then review these images and make a final diagnosis.
5. Sonographers have extensive and direct patient contact which may involve performing some invasive procedures. They must also possess the capabilities to interact compassionately and effectively with people who range from the healthy to the critically ill.



About the course

The Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) course is designed to be directly relevant to becoming a competent general sonographer.

This is achieved by utilizing a spiral curriculum model of teaching which allows you to slowly build your theory and practical skills be revisiting topics throughout the course at a deeper and more complex level with each successive encounter. AIHE has also employed a holistic teaching model whereby many subject areas necessary to becoming a competent sonographer are embedded within the units of competency and taught concurrently and then integrated into the simulation skills sessions as well as in the clinical environment.

For example in year 1, term (block) 1 of this course you will be engaged in theoretical and practical subjects to include Professional Practice, Physics & Instrumentation and Abdominal Ultrasound. These subjects will be integrated in tutorials and the clinical applications laboratory where you will practice performing a holistic abdominal ultrasound examination on phantoms and live models.

AIHE has state of the art imaging suites designed to replicate a real workplace imaging practice so that you will develop all the necessary skills required to perform an ultrasound examination. Once you obtain the necessary skills to perform certain examinations you will then enter the clinical workplace where you will, under supervision, start to perform diagnostic examinations on real patients.

The amount of clinical placement will increase as you progress through the course to ensure you obtain enough real clinical experience on the full range of examinations undertaken in most general imaging practices. You will also be able to visit specialist imaging centres during the course to obtain additional experiences available in these centres.

The vocational sector of education focuses on workplace specific skills and knowledge and students / graduates having the underpinning knowledge to be competent at performing these skills at the industry expected standards. These specific skills and knowledge areas are designed around units of competency. A unit of competency ensures every aspect of a sonographer's theoretical knowledge and practical ability will be taught and assessed repeatedly to ensure a satisfactory level of competence has been achieved.

There are six units of competency in this course; three in each year of study.

All six units of competency are overarching core units (compulsory units). The course is taught and assessed in a holistic manner to produce well rounded work ready sonographers who can transpose every aspect of the essential skills and knowledge within each unit of competency to a variety of ultrasound examinations.

Contributing to each unit of competency are a number of "subject areas" as listed below. Each subject area is incorporated into each of the 3 units of competency for each year of study due to their interdependency on each other in performing an ultrasound examination.

Year 1 Units of Competency

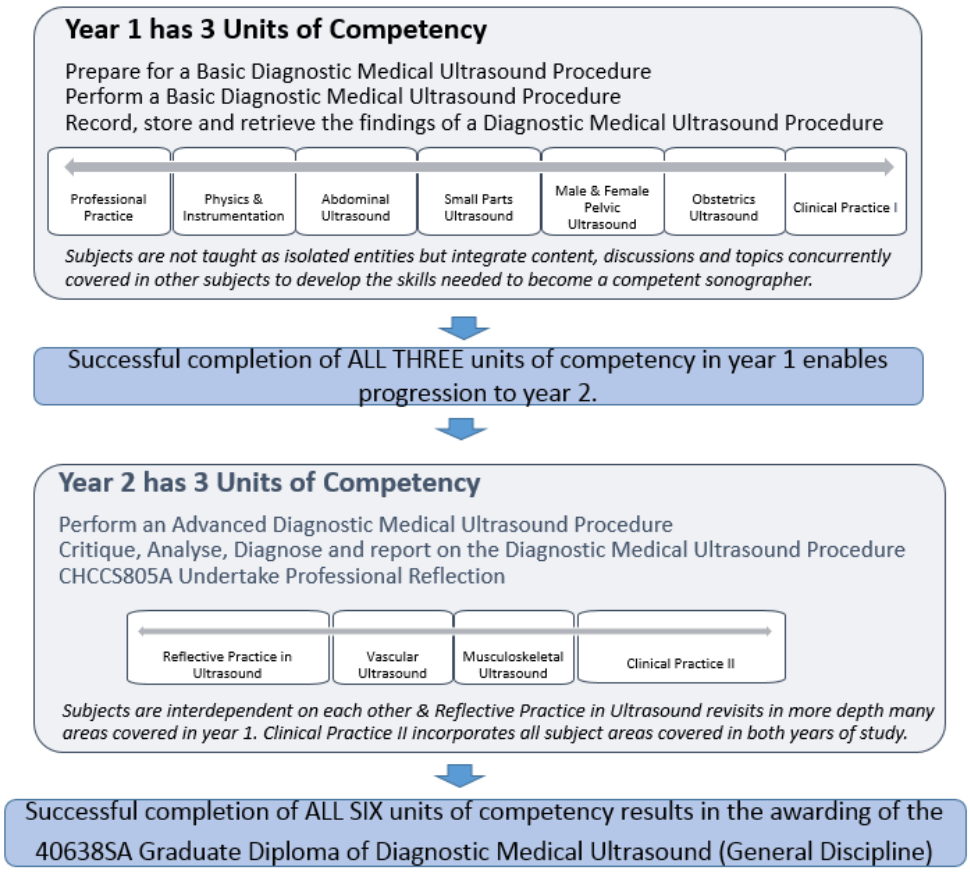
Prepare for a Basic Diagnostic Medical Ultrasound Procedure
Perform a Basic Diagnostic Medical Ultrasound Procedure
Record, store and retrieve the findings of a Diagnostic Medical Ultrasound Procedure

Subject areas incorporated in the year 1 overarching units of competency are: Clinical Practice I , Professional Practice, Physics & Instrumentation, Abdominal Ultrasound, Male & Female Pelvic Ultrasound, Small Parts Ultrasound & Obstetrics Ultrasound. These subjects are not taught as isolated entities, but integrate content, discussions and topics concurrently to develop the skills needed to become a competent sonographer.

Year 2 Units of Competency

Perform an Advanced Diagnostic Medical Ultrasound Procedure
Critique, Analyse, Diagnose and report on the Diagnostic Medical Ultrasound Procedure
CHCCS805A Undertake Professional Reflection

Subjects incorporated in the year 2 overarching units of competency are: Clinical Practice II, Reflective Practice in Ultrasound, Vascular Ultrasound and Musculoskeletal Ultrasound. Subjects are interdependent & Reflective Practice in Ultrasound revisits in more depth many areas covered in year 1. Clinical Practice II incorporates all subject areas covered in both years of study.



Graduate competencies upon course completion

At the conclusion of this course you will have the capacity to work competently as a sonographer.

You will be capable of:

1. Using the fundamental and advanced physical properties of ultrasound and the adjustments needed to acquire and improve the imaging techniques for different examinations across a range of patients.
2. Performing a range of basic and advanced ultrasound examinations with ongoing guidance where required
3. Recognizing pathology, understanding its underlying disease process, making a provisional differential diagnosis, and thinking critically when remodelling the standard examination to encompass the new finding.
4. Communicating effectively with staff and patients in an appropriate manner and at an appropriate level, and participating in patient diagnosis discussions and reporting sessions regarding scans undertaken.
5. Competency in performing a range of varied work activities which are routine and predictable.
6. Competency in assessing the clinical requirements of the examination outcome, and tailoring the procedure to encompass the diagnostic expectation.
7. Competently performing 10 to 12 basic and advanced examinations per day (with limited supervision).
8. Undertaking effective patient care including infection control principles and emergency conditions and procedures.
9. Developing safe work practices in accordance with current standards of Occupational Health and Safety (workplace health & safety).
10. Performing quality control of equipment
11. Recognizing professional, legal and ethical aspects of sonographic practice
12. Demonstrating a basic knowledge of the process of research methodology
13. Working in a team effectively
14. Developing the tools for continuing professional education and facilitating professional review processes and development

Please note: if you only complete certain units of competency, you will receive a Statement of Attainment for the units successfully completed. You will not be able to be employed as a sonographer if only the first year has been completed. You must complete the entire course before you can be registered with the Australian Sonographer Accreditation Registry (ASAR) so that you can practice as an accredited medical sonographer (AMS).

Pathways to course entry

There are five pathways to entry to the Graduate Diploma of Diagnostic Medical Imaging (General Discipline):

1. Bachelor Degree in Medical Imaging Science (Radiography or Nuclear Medicine).
2. Bachelor Degree in a non-imaging medical science (Health related)
3. Bachelor Degree in a non-health related science followed by a Certificate III in Allied Health Assistance*.
4. Advanced Diploma, Diploma, or higher level vocational certificate in the field of Medical Imaging.
5. Relevant work experience and the potential to undertake work at this level. Applicants must be registered to practice with the ASAR.

In addition to the academic entry requirements applicants need to submit the following:
- USI number
- HLTAID003 Provide First Aid or equivalent (certified)
- Valid working with children check, police check and current immunization for a healthcare worker (certified)
- A one page essay titled "My motivation to become a sonographer is..."
- A current curriculum vitae
- Certified copies of all certificates and testamurs relevant to the application
- If your undergraduate qualification is from a non-English speaking country you will also need to provide evidence of a minimum IELTS Academic level 7.0 (certified)

A pre class assessment will be undertaken on a one to one basis for each potential candidate for the course. The aim of this assessment is to determine prior learning, special needs of the student.

If the student has deficient areas of learning deemed essential to complete the course AIHE reserves the right to advise the student that they need to undertake some additional activities prior to enrolment acceptance and course commencement.

Information gathered from this process will also be used to tailor classroom activities and delivery to enhance the student learning experience.

*A certificate III in Allied Health Assistance or similar is available to undertake from a number of Registered Training Organisations. Please contact us at AIHE if you require more information.

Course pre-requisites

The four pre-requisites to the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) are:

1. **HLTAID003 Provide First Aid**
2. **Working with Children Check**
3. **Police check**
4. **Immunization status**

It is essential to have all four items completed prior to commencement of the course and keep them current throughout the duration of the course.

HLTAID003 Provide First Aid

It is the student's responsibility to enroll and complete an Applied First Aid course through a recognized training facility, code HLTAID003 (or equivalent).

On completion of this course the student must include a certified copy of the certificate in their application.

It is the student's responsibility to keep this certification current throughout the entire time of the course. Failure to do so may result in the student not be able to attend clinical site placement.

Working with children check

Prior to being allowed to enter clinical placement the student is required to submit a certified copy of their working with children check relevant to the state that they will be undertaking clinical placement in.

The working with children check must remain current for the entire time of the course.

NSW: http://www.kids.nsw.gov.au/Working-with-children/New-Working-With-Children-Check/New-Working-with-Children-Check

Police check (criminal history) records check

Prior to being allowed to enter clinical placement the student is required to submit a certified copy of their criminal record check. Please refer to the below websites for information relating to how to obtain this check.

http://australia.gov.au/faq/police-criminal-history-records-check

NSW:
http://www.police.nsw.gov.au/about_us/structure/specialist_operations/forensic_services/criminal_records_section

https://npcoapr.police.nsw.gov.au/aspx/dataentry/Introduction.aspx

Immunization status

It is a requirement of AIHE that your immunization status is current and remains such throughout the duration of the course. AIHE guidelines are in keeping with NSW Health Department requirements for students working in the health sector: AIHE students are Category A as per NSW Health guidelines.

The policy is attached to this document for reference, as is the immunization card. The immunization card is recommended to be completed and a copy, alongside sighting of the original to be kept on file at AIHE, with updates as necessary throughout the student's course.

More detail can be obtained from:

http://www.health.nsw.gov.au/immunisation/Pages/oasv.aspx and

http://www.health.nsw.gov.au/immunisation/Pages/oasv.aspx

Australian Sonographer Accreditation Register (ASAR)

Upon commencement of the course you will be required to apply for student registration with the Australian Sonographer Accreditation Register (ASAR). Details can be found at: http://www.asar.com.au/about/sonographer-accreditation Category 2A - Accredited Student Sonographer.

It is also encouraged that, as a professional, you undertake to become a member of one or more of the sonographer associations in Australia.

Medicolegal insurance

As a student sonographer you will be required to take out ASA student membership insurance for the duration of your course.

Exit Strategy

The course is delivered over two years with an exit point at the end of year 1. If you exit at this point you will be issued with a "Statement of Attainment" that will encompass your acquired skill set.

PLEASE NOTE: If you decide to exit at the end of Year 1, or at any stage throughout the course, it is anticipated that you will be articulating into another Ultrasound Training Program, offered either through a University or with the ASUM offered DMU.

It <u>will not</u> be possible for you to apply for sonographer accreditation, nor work as an accredited medical sonographer.

At the conclusion of this part of the course you would be capable to:

1. Demonstrate the fundamental physical properties of ultrasound and the adjustments needed to acquire and improve the imaging techniques for different examinations across a range of patients.
2. Perform a range of basic ultrasound examinations under limited supervision.
3. Recognise pathology, and think critically when remodelling the standard examination to encompass the new finding.
4. Communicate effectively with staff and patients in an appropriate manner and at an appropriate level.
5. Competently perform 7 to 9 basic examinations with limited supervision per day.

Areas of study

To make it easier for students to know what area, or topic, of ultrasound will be covered at any particular time throughout the course, we have designed “subjects” which sit underneath the units of competency. Each subject is not taught as an isolated entity. Every lesson, be it theoretical or practical, will draw on content, discussions and topics covered in other subjects and our teaching material has been developed to make sure we integrate aspects of each subject to develop the skills necessary to becoming a competent sonographer. (for more detail please refer to pages 7 & 8 above)

Assessments are based on the units of competency, and not solitary subjects. This means that there are theory and practical assessments on every aspect of course content contained within the units of competency.

In essence; our assessments are similar to how we teach; under vocational education guidelines it is essential that our assessments focus on the tangible outcomes of preparing for, performing, recording, critiquing and reflecting on each ultrasound examination we perform to be at the industry expected standard.

Core texts and activity guides / workbooks

AIHE will provide the core texts and activity guides/workbooks as part of the materials fee. The appropriate texts and guides are updated regularly in keeping with modern practice and will be allocated at the commencement of the relevant term. Some of these texts will be provided on loan to the student for the duration of the course and will be required to be returned in good condition with no writing/marking on them to AIHE on completion of the course. Failure to do so or books returned in an unsatisfactory condition may result in an additional charge being incurred by the student. (books are subject to change at the discretion of the Academic Manager and teaching team at AIHE)

Clinical Practice I

Clinical Practice I is designed to provide students with simulation and workplace exposure to ultrasound examinations. The student will be exposed to a variety of the most common ultrasound examinations.

Year 1: Terms 1, 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline). In order to proceed to on-site clinical practice, the student must successfully complete all summative assessments in year 1, terms 1 & 2.

Learning objectives

1. Locate the patient & confirm patient identity
2. Enter correct patient data and details into machine
3. Explain examination to patient and obtain consent
4. Assess if any special needs of patient need to be addressed
5. Prepare patient for examination
6. Patient history and clinical indications checked
7. Region of interest clinically assessed if relevant
8. Confirm patient preparation has been done
9. Select appropriate transducer and machine set up
10. Undertake a survey scan of the region of interest and optimize machine settings
11. Perform scan in a logical and systematic way following departmental protocol
12. Examine all organs / structures correctly and understand anatomy and relevant physiology and pathology
13. Appropriate use of equipment and image optimization
14. Document an accurate representation of the real time examination to include normal and any abnormal findings
15. Correctly identify and label as needed all structures, organs and features
16. Investigate further if information obtained during the scan indicates the need for further investigation and document such findings
17. Take measurements correctly as appropriate
18. Use normal value tables and population data to validate calculations
19. Able to recognise artefacts and attempt to eliminate if required
20. Describe and demonstrate to the patient elements of the examination as appropriate
21. Review and discuss the images and examination after the patient has left to include limitations of the examination
22. Review the still frame and real time images and select and store the appropriate images
23. Accurately complete the “worksheet”
24. Demonstrate an understanding of the ethical and legal responsibilities of a sonographer, and work within this
25. Explain / carry out the procedure for finding further information if required
26. Demonstrates respect to others, to include the patient and any accompanying person
27. Inform the patient the next steps under the departmental policy

Professional practice

This subject equips the student with the skills and knowledge required to incorporate their everyday practice in sonography with their professional and personal development. It provides a strong basis to introduction of continued professional development, critical analysis and reflective practice. Students are exposed to the medico-legal, ethical and moral aspects of working in a high level analytical position in the diagnosis of medical disease. Quality control, team dynamics, and individual professionalism are addressed throughout this unit of study. Students will be encouraged to develop an analytical approach to recognize and appreciate the clinical questions and to determine and demonstrate appropriate scanning choices and techniques in the acquisition of sonographic information.

Year 1: Terms 1, 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline).

Learning objectives

- Describe professionalism in the allied health environment (in particular ultrasound) to include:
    - Cultural awareness
    - Physical impediments of the patient
    - Appropriate patient and staff communication skills
    - Appropriate use of chaperones
    - Adherence to appropriate examination protocols & preparation
    - Medical etiquette and patient privacy
- Explain the types of consent, when it is required, how it can be obtained and whom can give or deny consent
- Explain occupational health and safety in the workplace with particular reference to universal precautions and appropriate manual handling techniques
- Describe a "time-out" for an ultrasound examination
- Demonstrate an understanding of the key principles of medical law and medical ethics
    - Understand and discuss the legal requirements for sonography reporting to include worksheets
    - Understand and discuss professional indemnity insurance and its relevance in ultrasound practice
- Describe the various types of image recording to include: film, paper, Dicom, RIS/PACS
- Discuss the differences between long and short storage methods and critically evaluate the various image viewing and storage methods
- Discuss the legal requirements for image storage and retrieval
- Discuss appropriate timeframes for reporting of examinations and when it is appropriate to provide a provisional report
- Discuss the social versus medical aspects of the obstetrics scan
- Distinguish between appropriate and non-appropriate information to impart to the patient during the examination
- Describe the correct channels to go through when there is bad news in an ultrasound examination, with particular reference to obstetrics ultrasound examinations
- Discuss the variety of ways to communicate with children, their parents and family
- Explain the medico legal issues involved in working with children and parents
- Explain appropriate manual handling techniques when working with children
- Understand basic statistics and explain how they relate to the allied health industry
- Undertake a literature review
- Use the data gained from a research project and present to the class a review of the data

Physics & Instrumentation

This subject aims to provide the student with a comprehensive knowledge of the physics of ultrasound, outlining the physical properties and principles of ultrasound waves and linking them with the practical use of ultrasound in modern medical imaging. The subject will encompass:

1. Wave properties
2. Image optimisation and artefacts
3. Ultrasound propagation
4. Attenuation in body tissue,
5. Ultrasonic transducers and their properties
6. Harmonics
7. Recording methods (including digital imaging)
8. Two-dimensional,
9. Real-time scanning
10. M-mode scanners,
11. Spectral, Colour and Power Doppler
12. 3D and 4D imaging and reconstruction techniques
13. Haemodynamics
14. Quality assurance
15. Bioeffects and safety considerations

Year 1: Terms 1, 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline).

Learning objectives

- Outline the history of ultrasound and how it is used in today's medical environment
- Explain the different modes of ultrasound and discuss examples of where each is used
- Explain the principles of: soundwaves, pulsed ultrasound, attenuation, echoes
- Draw and explain the components of a simple transducer
- Explain focussing, automatic scanning, detail resolution, the beamformer, signal processing, image processor and the various types of image displays
- Explain and recognize on images, where relevant: slice thickness, speckle, reverberation, mirror image, refraction, grating lobes, speed error, range ambiguity, electronic noise, shadowing and enhancement
- Demonstrate with real time ultrasound how artefacts may assist or detract from the image produced and manipulate the controls to optimize the image appropriately
- Competently use all the B mode image controls competently on a variety of body areas and understand and explain the physical principles behind each to include controls such as: TGC, output power, gain, reject, amplitude, frame rate, dynamic range, compression, field of view and sector angles, temporal resolution
- Describe blood flow with the aid of diagrams
- Explain the principles of pulsed and colour Doppler
- Explain the similarities and differences between continuous wave and pulse wave Doppler
- Understand spectral analysis and explain the various components of the display
- Discuss the advantages and disadvantages of colour Doppler
- Interpret spectral and colour Doppler artefacts
- Competently use all the Doppler and colour mode image controls competently on a variety of body areas and understand and explain the physical principles behind each to include controls such as: gain, aliasing, dynamic range, colour maps, wall filter, sample volume, angle correction, sweep speed, invert, baseline
- Understand the bioeffects of ultrasound and how to safely use ultrasound in medical examinations

Abdominal Ultrasound

This subject covers the anatomy and physiology of the abdominal organs and the use of ultrasound in the diagnosis and screening of the abdominal organs to include the liver and portal venous system, gall bladder and biliary tree, urinary tract, pancreas, aorta, spleen, retro peritoneum, gastrointestinal tract and abdominal wall to include Doppler of the major abdominal vessels. Interventional abdominal ultrasound and an introduction to transplant ultrasound is also covered in this subject alongside the normal and abnormal ultrasound recognition and diagnosis of diseases in the abdomen.

Year 1: Terms 1, 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline).

Learning objectives

- Describe scanning plane and scanning windows and correct image documentation
- Describe anatomical relationships in the abdomen
- Explain the ultrasound appearance of commonly used terms to include: echogenic, hypoechoic, isoechoic, homogeneous, heterogeneous and give examples of various abdominal organs which demonstrate such terms
- Discuss the anatomy, pathology and clinical presentation of patients for abdominal ultrasound examinations
- Discuss the scan protocols of the following organs to include a complete abdominal ultrasound examination protocol
    - Liver
    - Gall bladder and Biliary tree
    - Pancreas
    - Urinary tract
    - Spleen
    - Retro-peritoneum to include aorta and IVC
    - Peritoneal cavity and anterior abdominal wall
    - Gastro intestinal tract to include appendix,
- Understand the advantages and disadvantages of ultrasound guided procedures and have an understanding of the common biopsies and procedures
- Identify the normal and abnormal abdominal organs in ultrasound images

Small Parts / Superficial Structures

This subject covers the anatomy and physiology and the use of ultrasound in the diagnosis and screening of small parts organs to include the breast, thyroid, scrotum and superficial structures. The normal and abnormal recognition and diagnosis of small parts diseases and scanning protocols are also covered in this subject.

Year 1: Terms 1, 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline).

Learning objectives

- Describe the gross, segmental and vascular anatomy of the breast, thyroid, scrotum and superficial structures to include normal sizes and common anatomical variants
- Describe using ultrasonic terms the normal appearance of the breast, thyroid, scrotum and superficial structures
- Identify the imaging plane and orientation of the small part organs in images
- Discuss various scanning windows and transducer and patient manipulation techniques of the small parts organs
- Describe a recognised scan protocol of the breast, thyroid, scrotum and superficial structures
- Recognize on ultrasound images common small parts pathology

Male and Female Pelvic Ultrasound

This subject includes the anatomy and physiology of the male and female pelvic organs and the use of ultrasound in the diagnosis and screening of the associated organs. The normal and abnormal recognition and diagnosis of disease and ultrasound scan protocols of the male and female pelvic organs are also covered in this subject to include endocavity scanning.

Year 1: Terms 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) and have successfully completed all summative assessments in year 1 term 1.

Learning objectives

- Describe the gross, segmental and vascular anatomy of the male and female pelvis to include normal sizes and common anatomical variants
- Describe using ultrasonic terms the normal appearance of the male and female pelvis
- Discuss the preparation of the patient and ultrasound equipment for an endocavity scan
- Identify the imaging plane and orientation of the male and female pelvis in images
- Discuss the scanning windows and transducer and patient manipulation techniques for transabdominal and endocavity scanning
- List the advantages and disadvantages of endocavity scanning compared to transabdominal pelvic scanning
- Discuss the various assisted reproductive techniques and the associated ultrasound examination
- Identify the normal and abnormal male and female pelvic organs on ultrasound images

Obstetric Ultrasound

In this subject students will be exposed to the fundamentals of obstetric scanning as well as the ultrasound interpretation and analysis of the obstetrics scan. Embryology and first trimester diagnosis and screening tests are also covered in this subject, as is the routine second trimester ultrasound examination to include the 20 week ultrasound scan. Third trimester sonography (including Doppler), fetal wellbeing, and obstetric interventional techniques are also covered, as is 3D/4D ultrasound interpretation and diagnostic usage. Commonly encountered fetal anomalies are also discussed in this subject alongside the ultrasound images associated with these anomalies.

Year 1: Terms 2, 3, 4

Pre requisites

Students must meet the entry requirements of the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) and have successfully completed all summative assessments in year 1 term 1.

Learning objectives

- Understand basic embryology of the developing foetus
- List the indications for the first, second and third trimester ultrasound examination
- Discuss the protocol for nuchal translucency ultrasound
- Understand the problems of early pregnancy and how these problems are identified on ultrasound
- Discuss the routine first and second trimester ultrasound examinations of a recognised scan protocol
- Describe fetal position, fetal lie and labelling of multiple pregnancy
- Discuss fetal biometery at various stages of the pregnancy
- Understand the placental function throughout pregnancy and the various ultrasonic features of the placenta
- Plot on growth charts the fetal growth and comment on findings
- Identify on images normal ultrasound images of the obstetrics ultrasound examination
- Describe the various types of twin pregnancies and the levels of risk involved in each type of pregnancy
- Recognize on images common fetal anomalies
- Describe within the context of the ultrasound examination what to record if an abnormality is detected
- List the maternal factors of high risk pregnancy
- Outline the biophysical profile examination
- Describe the transabdominal, translabial and endovaginal cervical assessments and the reasons for performing such assessments
- Discuss invasive procedures to include amniocentesis and chorionic villus sampling
- Discuss the use of Doppler in pregnancy and how to perform the most common Doppler examinations under a recognised scan protocol

Clinical Practice II

Clinical Practice II is designed to provide students with workplace exposure to ultrasound examinations. The student will be exposed to a variety of the most common ultrasound examinations, as well as more advanced areas to include vascular and musculoskeletal ultrasound.

Year 2: Terms 1, 2, 3, 4

Pre requisites

Successful completion of all three units of competency from Year 1.

Learning objectives

1. Consistently perform a basic* ultrasound examination in 30 minutes.
2. Review the clinical question, determine the suitability of the examination and perform the examination in the required time limit of 30 minutes for a basic* examination.
3. Review the clinical question, determine the suitability of the examination and perform the examination in the required time limit of 45 minutes for an extra-cranial carotid vertebral ultrasound examination.
4. Review the clinical question, determine the suitability of the examination and perform the examination in the required time limit of 45 minutes for a deep venous thrombosis (DVT) ultrasound examination.
5. Review the clinical question, determine the suitability of the examination and perform the examination in the required time limit of 45 minutes for a shoulder (rotator cuff) ultrasound examination.
6. Develop a systematic approach to critiquing the examination.
7. Analyse the data to determine a differential diagnosis.
8. Discuss complementary procedures to support the diagnostic outcome.
9. Review the goals and outcomes of the examination and determine if they are as anticipated.
10. Act professionally at all times in keeping with department organisational policies and procedures.

**A basic examination includes abdominal organs, male and female pelvic, **obstetrics, breast, testicular, thyroid and superficial structures.*

***A second and third trimester obstetrics ultrasound examination will be allowed 45 minutes for completion.*

Reflective Practice in Ultrasound

Reflective practice in ultrasound is an important aspect of a sonographer's ongoing development. This subject is covered across the entire second year of the course and encourages the student to reflect and build on their clinical performance and theoretical knowledge of ultrasound scanning. The subject also provides an introduction to advanced areas of imaging to include paediatrics, cardiac and emergency department ultrasound techniques.

Year 2: Terms 1, 2, 3, 4

Pre requisites

Successful completion of all three units of competency from Year 1.

Learning objectives

- Discuss what professional practice is and its importance in the allied health profession
- Define best practice in ultrasound practice
- Discuss strategies to maintain professional wellbeing
- Describe a recognised protocol for the ultrasound examination of the paediatric abdomen and pelvis and identify on images the normal and abnormal paediatric abdomen and pelvis
- Describe a recognised protocol for the ultrasound examination of the neonatal brain and identify on images the normal and abnormal neonatal brain
- Describe a recognised protocol of the paediatric hip and spine and identify on images the normal and abnormal images of the paediatric hip and spine
- Discuss patient booking and billing systems and the Medicare system in Australia
- Discuss the 10 year equipment rule, know what a LSPN number is and how to acquire one and practice accreditation requirements
- Discuss how to register as a sonographer and how to maintain registration

- Describe the use of ultrasound in echocardiography and describe the basic views of a routine echo
- Discuss the FAST and RACE examinations and adaptation of ultrasound imaging in the emergency and critical care departments

Vascular Ultrasound

This subject covers the anatomy and physiology of the vascular system of the body and the use of ultrasound in the diagnosis, screening and assessment of the vascular system. This subject focuses on the scan protocol and interpretation of the carotid Doppler and deep venous thrombosis (DVT) Doppler examination. Peripheral arterial and abdominal Doppler studies to include the aorto-iliac, renal and mesenteric vessels are also covered in this subject.

Year 2: Terms 1, 2, 3, 4

Pre requisites

Successful completion of all three units of competency from Year 1.

Learning objectives

- Describe the Doppler effect as applied to vascular ultrasound
- Draw various Doppler signals and label the waveform appropriately
    - Arterial waveform
    - Venous waveform
    - Specific organ vascular waveforms
        - Renal artery, renal parenchymal flows
        - Peripheral arterial
        - Peripheral venous
        - Augmentation
        - Abdominal aorta
        - Carotid vessels and Jugular vein
- Describe the venous flow and the changes in venous flow due to cardiac cycle, respiration, augmentation, changes in patient posture
- Identify the extra-cranial vessels and adjacent anatomical landmarks
- List the risk factors, warning signs and symptoms of stroke
- Describe the carotid Doppler ultrasound scan protocol
- Identify on images the normal and abnormal images and spectral trace of the extracranial carotid system
- Describe the epidemiology and pathology of DVT
- Describe the DVT examination of the upper and lower limbs
- Identify on images acute and chronic thrombosis, and pathology that may mimic DVT
- Discuss the significance of thrombophlebitis and the scan protocol of such
- Discuss the aorto iliac peripheral arterial Doppler examination
- Discuss the protocols for the renal artery Doppler and mesenteric artery Doppler examinations
- Discuss the normal and abnormal renal Doppler findings

Musculo-skeletal Ultrasound

This subject covers the anatomy and physiology of the Musculo-skeletal system and the use of ultrasound in the diagnosis, screening and assessment of the musculo-skeletal system. On completion of this subject the student will be able to perform a rotator cuff and knee ultrasound examination as well as describe the scan techniques of other Musculo-skeletal structures to include the hand / wrist and foot / ankle.

Year 2: Terms 2, 3, 4

Pre requisites

Successful completion of all three units of competency from Year 1.

- Discuss the ultrasound examination of the rotator cuff and knee following a recognised scan protocol
- Identify the normal and abnormal images of the rotator cuff and knee ultrasound examination
- Describe and recognise ultrasonic artefacts on musculo-skeletal imaging
- Describe a recognised scan protocol of the ankle and foot
- Describe a recognised scan protocol of the wrist and hand
- Recognize basic imaging signs and symptoms of a tear or other pathology in Musculo-skeletal imaging
- Discuss transducer manipulation techniques to optimise the image for Musculo-skeletal imaging

Student resources

You will be issued with the following resources upon commencement of the course / unit of study as appropriate:

1. Core Textbooks and Workbooks
2. Student Learning Guide: containing theoretical content to complement class based theoretical knowledge sessions, applications laboratory tasks and a variety of self-assessment and formative assessment tasks
3. Clinical Procedures Record Book: for record keeping of patient examinations throughout the course
4. Portfolio: to direct you towards self-learning and continuous improvement and professional development thus encouraging the lifelong learning process
5. Assessment guide: outlining the expectations (including both formative and summative assessment tasks), their weighting, grading, and timing throughout the year
6. Internet access on campus
7. Access to an extensive medical library at clinical sites and the AIHE library
8. One student uniform shirt will be provided with your materials fee. You are required to purchase any additional AIHE uniform shirts as you need them

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Student & Teacher code of conduct

AIHE expectations of the student

As a student of AIHE you will be expected to adhere to high standards of professionalism whilst at the college, as well as when you visit clinical sites.

The attendance hours for you to complete the Graduate Diploma of Medical Ultrasound are:

- full time and variable as per the timetable
- 4 terms per year comprised of 10 weeks per term (i.e. 40 weeks per year)
- 2 years total duration
- You are also expected to complete a variety of learning tasks and personal study to be able to progress from being a novice student sonographer to a competent graduate

Hours of attendance are compulsory. If you fail to attend a class, miss an assessment or formative task, you will be expected to provide an explanation and may be required to make up the missing class and / or clinical time to satisfy academic requirements. If you have less than 80% attendance in class time you will be asked to attend a meeting with the Academic Manager which may result in a disciplinary warning and may result in you not be allowed to continue with the course.

Students attending the Graduate Diploma of Diagnostic Medical Ultrasound (General Discipline) are expected to undertake self-study outside of timetabled hours of attendance. Attendance on campus is 8.30 – 4.30 Monday to Thursdays and whilst on clinical placement full time 37.5 – 38 hours per week and is site dependent on days and hours of attendance.

The clinical placement hours are in keeping with Sonographer Registration requirements and whilst on clinical placement you will be expected to undertake additional set tasks and assessments as per the academic timetable.

At all times you are expected to maintain privacy and confidentiality of any models, or patients that may be presented to you for scanning practice or examinations. You will be required to complete a student confidentiality statement prior to commencing your studies with AIHE as part of the application package.

Student Absentee policy

Whilst on campus

Hours of attendance are compulsory.

If you fail to attend a class, miss an assessment or formative task, you will be expected to provide an explanation and may be required to make up the missing class and / or clinical time to satisfy academic requirements.

If a student attendance is 80% or less for timetabled classes on campus they may not meet required learning outcomes and could receive a not yet satisfactory result on their transcript. If attendance is at or below 80% then a formal letter will be sent to the student to inform of their attendance record and if attendance is not immediately improved they may not be allowed to continue with the course.

An email to AIHE administration is expected if you are not able to attend a teaching or clinical practice session before 8am on the day of scheduled classes.

If you are out on clinical placement the following is to take place:

Hours of attendance at clinical site are compulsory. If you have too many hours absent, not only will be clinical site be potentially not willing to have you return for placement but you may be required to make up the missing hours to ensure you fulfil ASAR mandatory clinical practice hours.

1. If one day absent
    a. Before 8am on the day of work email your supervising sonographer **and** copy admin@aihe.edu.au to inform of your absence
2. If you are absent for two consecutive days in a week (or a Friday and then the following Monday)
    a. email about your absence on each day (or anticipated length of absence if known)
    b. on your return to work complete the student absentee form
    c. Provide a medical certificate or relevant documentation to support you being absent
    d. have your clinical supervisor sign the absentee form
    e. submit via email a copy of the absentee form and supporting documentation to admin@aihe.edu.au
    f. Provide the original copy to the clinical supervisor for their files
    g. If you have too many hours absent you may be required to make up hours outside of academic terms to ensure you achieve the required number of ASAR hours.

Scheduling of holidays during academic term.

1. Do not schedule holidays during the academic term.
2. You have embarked on this career path and full commitment must be given to complete this course in the required time frame.
3. Exceptional circumstances will be dealt with on a case by case basis.

Uniform and code of conduct

A uniform is expected to be worn when on clinical assignment and also in the clinical applications laboratory. Remember you are an allied health professional and are expected to act in accordance with the professional expectations of the allied health industry. The AIHE uniform consists of:

- closed in black footwear (no high heels or open toe sandals)
- black or navy blue trousers or shorts / skirt that extend to, or below the knees
- official AIHE shirt to identify you clearly as a student of AIHE
- name badge clearly displayed and your status as student sonographer
- no raised jewellery on your hands or wrists
- no visible body piercings (except small earrings)
- if entering the operating theatre you may be requested to remove all jewellery to include earrings as policy of the clinical site
- Fingernails must be clean and of a safe length that does not interfer with performing tasks (scratching skin). Fingernails should measure no longer than 1cm from the fingertip and nail polish / varnish/ lacquer colour must be subtle and tasteful and not chipped. Acrylic / gel nails if worn must be clean, free of infections / fungal issues and regularly maintained. Any broken nails must be covered with a bandaid until repaired.
- indivuduals wanting to wear clothing or jewellery outside of the dress code guidelines for religious, creed or cultural reasons must discuss this request with the Academic Manager. This excludes special circumstances such as wearing a hat/beanie/cap during chemotherapy treatment.

Please wear your uniform with respect and pride. Any infringement of dress code will be taken seriously. Individuals should avoid wearing skirts/dresses if the task to be performed may include the use of a saddle seat/chair (opt for trousers). An individuals dress/attire should not at any time cause offense, discomfort or embarrassment to patients

Mobiles phones are NOT allowed to be used during lessons, applications laboratory sessions and **definitely not** in the examination rooms whilst on clinical placement.

No food or drink is permitted in or around any scanning area; applications laboratory and clinical site alike. You are allowed to bring bottled water with you to the theoretical sessions and adequate breaks are provided for you throughout the day, however personal computers are in use during theory sessions and AIHE will not be held lible in the event of damage to such items.

No drugs or alcohol are permitted on site without prior consent of AIHE management.Smoking is banned in all public health areas and in most instances in private clinics as well as the AIHE campus.

No phones are to be plugged into AIHE computers and there is no use of AIHE computers.

If you need to use the bathroom, please exit and enter the room quietly at an appropriate time so as not to disturb fellow students.

Any proven misconduct (including summary dismissal) may result in expulsion from the course.

Gross misconduct may include but is not exclusive to the following matters:

- not adhering to the code of conduct
- not adhering to confidentiality
- failure to attend class

Three official warnings will result in explusion from the course.

Expectations of clinical placement site & clinical supervisors

In addition to the AIHE expectations of students your clinical site may have additional guidelines and expectations. Please make it your first priority to identify any such requirements and adhere to them in addition to the AIHE expectations. If at any time you feel these additional requirements are not appropriate please contact your AIHE teaching staff.

Tea and lunch breaks are at the discretion of the clinical site you are assigned to. If you find that you are not receiving sufficient breaks please contact your AIHE staff. Prior to this, however, please try to identify why this may be the case so as AIHE can help to mediate the situation if required.

Any proven misconduct (including summary dismissal) may result in expulsion from the course.

Student expectations of AIHE teachers & clinical site supervisors

Not only does AIHE expect a lot from its students, you as students should expect a lot from your teachers and clinical site supervisors. Such expectations should include integrity, confidentiality, compassion and understanding of special circumstances and not to demonstrate any bias towards / against any particular student/s.

Your AIHE teachers are also expected to follow the set curriculum and learning outcomes of the subject and course as an entirety. They are also expected to return assessments and tasks in an appropriate time frame so as not to disadvantage you in any way for learning.

If you find this is not happening please contact the Academic Manager to discuss your concerns.

Student support at AIHE

Whilst a student at AIHE if you at any time have an concerns and need to find support for any range of matters to include, but not be exclusive to, study skills, time management, financial concerns, clinical placement concerns and personal concerns that may, or may not, be affecting your performance at AIHE you are encouraged to seek initial support, in a confidential environment, from the CEO or Academic Manager who will then seek the appropriate channels for you to resolve the matter at hand.

The aim of the process is twofold. Firstly, to ensure we promptly address the student's immediate concerns and secondly, to offer the student appropriate support mechanisms to ensure the matter of concern is sensitively dealt with in the short and long term. The appropriate senior staff member will be assigned by the CEO / Academic Manager to assist the student and appropriate external support will also be sourced and made available to the student.

Any discussions with respect to student support will be treated with the upmost confidentiality at all times.

Where to find help

Textbooks and journal articles

The text books that have been selected for your learning have been chosen due to the holistic manner in which they cover the area of sonographic practice. You are encouraged to look beyond the set texts for additional information, opinions and tips related to the area of ultrasound. If you require any assistance in locating particular journals, texts or information the AIHE staff and your clinical site supervisors are available to assist.

Fellow students

One of the best ways of learning is by discussion with fellow students. This course aims to incorporate many in class discussion sessions, as well as role plays and simulation sonography situations to promote such learning and assistance.

Academic staff

It is acceptable at this level of study to ask questions of your teacher. The teacher is here to help you understand and perform all aspects of general sonography. *The only silly question is the question not asked.* It is highly likely if you do not understand a concept that others may also not understand.

AIHE teachers want you to actively participate in your learning and will encourage discussion and reflection throughout your learning. This encourages you to become a discerning health professional that looks at the "big picture" of allied health.

Clinical supervisors & accredited sonographers

Your clinical supervisors and accredited sonographers you may encounter during your clinical placements are there to help you. Please ask them questions at appropriate times during the day.

Please be aware that it may not be appropriate to ask your supervisor a question during a patient examination. If you feel you need to ask a question that is not appropriate for the patient to hear ask the supervisor to step out of the room with you to discuss the problem, or wait until the end of the examination and the patient has left. Obviously if the question is pertinent to patient care please do not let your patient leave without the question being resolved in the appropriate manner.

Your clinical supervisor will often check, or even repeat, your examination. Do not feel this always means you have performed the examination poorly; we expect our clinical site supervisors to ensure the quality of all examinations are up to that which is expected of the practice you are located at. Checking your work is also a way for you to improve your examination skills by seeing what an experienced sonographer may have done differently.

Access to your academic progress

At any time if you require access to your academic results please contact the administrative assistant who will respond to your request within 7 days.

EEO, Discrimination, Harassment & Bullying Policy

AIHE endeavours to conduct its business in a way which encourages fair, equitable and non-discriminatory operational practices and equal opportunity for all. AIHE's reputation and success depends on the professionalism displayed by its people.

AIHE values its people and in doing so, it is AIHE's endeavour to provide an environment that maximises the talent, potential and contribution of all people and which encourages equal opportunity for all.

AIHE recognises that diversity in the workplace and learning environment adds value to our business through different perspectives and experiences. The term diversity in the workplace and environment means that people differ from each other and subsequently, they have a wide range of different attributes, needs, skills and experiences.

Furthermore, AIHE will not tolerate any form of bullying in the workplace or learning environment. Bullying is repeated unreasonable behaviour that is directed towards another person or a group of people that creates a risk to health and safety**.**

As such, it is essential that AIHE students understand the obligations and implications of the current legislation and comply with the letter and spirit of the law. As stated in AIHE's EEO, Discrimination, Harassment and Workplace Bullying Policy, the organisation expects all people to display appropriate behaviour at all times and unacceptable conduct will not be tolerated. There will be disciplinary consequences for any student who engages in inappropriate behaviour.

Contact Officers

AIHE's Contact Officers are an important first point of referral if you believe that you have a grievance in regards to discrimination, harassment, bullying or any other workplace issues; they can provide you with confidential information and support in how to best address such grievances.

Resolution of Issues

From time to time, people may feel that a decision has been made which affects them adversely or about which they require clarification or appeal. If you have a grievance, please refer to the Complaints and Appeals process form if you are not satisfied with the assistance your contact officer has offered you.

Student clinical placements

Clinical placement allocations are undertaken by AIHE management in order to ensure each student receives adequate exposure to a range of ultrasound examinations and environments necessary to complete the clinical tasks and clinical procedures record book accordingly. Whilst AIHE strives to ensure students are placed close to their primary residence, this may not always be possible.

Obtaining clinical placements is a fine balance between ensuring the department workflow is not affected by a student's presence and ensuring the supervising sonographer is able to allocate sufficient time to supervise and assist the student in their clinical skills.

Sometimes this means that AIHE will have no option but to offer you a placement not close to your residence and you may be required to commute, at your own expense and time, to the allocated clinical site. At times this may also mean you will need to find temporary accommodation to undertake the clinical placement.

Whilst we will use our best endeavours to allocate placements convenient to our students, due to the limited availability of quality sites this may not always be possible.

Student Responsibilities

It is the responsibility of the student to notify AIHE staff immediately if there is a concern regarding the allocation of their clinical placement. Whilst AIHE will strive to help each student obtain an alternative placement this may not always be possible.

Scanning in the clinical applications laboratory

From time to time students may be required to scan each other in some areas of the body. It is important to note that at **NO** time will a student be coerced into being scanned. If the student is not willing to be scanned due to any reason AIHE and/or the student will find an alternative person / phantom to be scanned. (Most of our scanning lessons are undertaken with dedicated ultrasound training phantoms and "model patients".)

At commencement of the course the nature of how the clinical applications laboratory functions will be explained in depth. Following this discussion the students will be requested to consider what areas of the body they are comfortable with fellow students scanning. At no time will "intimate" body areas be scanned by fellow students on each other. The student will next complete the "student consent to scanning for educational purposes form" which has been based on the B6 ASUM Policy "Consent to Ultrasound Scanning For Teaching Purposes" available at http://www.asum.com.au/newsite/Resources.php?p=Policy . the student is permitted to include on this form if they do/do not wish to partake in being scanned, as well as which region of the body; if any; they allow other students to scan on them.

If any unknown pathology is detected the student will be offered a formal ultrasound investigation at an appropriate imaging practice via communication with one of the AIHE medically certified directors and the student's general practitioner in the strictest of confidence.

Referencing & assignment requirements

Referencing

The Harvard system of referencing is to be used throughout the course.

There are many references on the internet to inform you how to use the Harvard system.

A particularly good site is the University of Southern Queensland site which can be found at:

http://www.usq.edu.au/library/help/referencing/harvard.htm

Assignment submission requirements

Assignments are to be typed in 11 or 12 fonts with 1.15 - 1.5 spacing.

Please note that AIHE's method of assignment submission is electronic via our online learning platform.

When electronically submitting your assignment please submit your document in PDF format.

All images are to have all patient personal details removed from them (ie DE identified). You may submit the images electronically via our online learning platform. Printed images are not recommended due to the loss of image detail, however if this is unavoidable please discuss with your teacher.

Plagiarism & collusion

Plagiarism is the act of representing as one's own original work the creative works of another, without appropriate acknowledgement of the author or source. To avoid plagiarism it is required that you write your answers in your own words, but also reference any sources of information using the Harvard Referencing system.

Collusion or the presentation by a student of an assignment as his or her own which is in fact the result in whole or in part of unauthorised collaboration with another person or persons. Collusion involves the cooperation of two or more students in plagiarism or other forms of academic misconduct and as such both parties are subject to disciplinary action. Collusion or copying from other students is not permitted and will result in a NYC grade.

Plagiarism and collusion constitute cheating. Disciplinary action will be taken against students who engage in either.

Bring your own device policy

The increased ownership of personal electronic devices requires that The Australian Institute of Healthcare Education (AIHE) learners take steps to ensure that personal electronic devices are used responsibly. This policy is designed to ensure that potential issues can be clearly identified and addressed and that individuals' own devices can be effectively and safely used for optimal learning and productivity outcomes.

This policy has been developed in conjunction with AIHE internet usage policy.

This document sets out the conditions for Bring Your Own Device (BYOD) at AIHE for learners. These devices include smart phones, tablets or laptops with the capability of connecting to the AIHE wireless internet and/or internal network for the purposes of study and work. Once connected, you will have access to:

- The internet
- The learning management system
- RTO resources such as printing and PACS image archive system

Acceptable BYOD use

- The use of learners' own devices whilst connected to the AIHE network is governed by the Acceptable Use Policy.
- Electronic devices must be switched to "silent" mode during class times and professional etiquette demonstrated at all times, with respect to phone calls, sending and receiving SMS, email or other messaging types.
- Students should not transmit or show material of an offensive nature.

Safe use and device security

- You are responsible for the maintenance and upkeep of your device. AIHE does not accept responsibility for replacing or repairing lost, stolen or damaged personal electronic devices belonging to learners.
- Personal devices should be marked clearly with your name.
- Always store your device in a protective cover and follow the manufacturer's instructions for care and maintenance.
- Do not leave your device unsupervised.
- It is strongly advised that you use a password or pin on your device to deter unauthorised use of your device. This password or pin should be kept secret.
- Keep yourself and others safe by not giving out personal details to unknown sites or individuals.

Virus protection

You are advised to:

- Protect your devices from virus attack by keeping your operating system and antivirus software up-to-date.
- Consider running virus scans regularly after accessing the internet or personal email.
- Exercise due caution when downloading files from the internet.

Power supply & battery maintenance

- You must bring your device fully charged at the beginning of the day as access to charging facilities is limited.
- You must bring your own power supply if you need to charge your device as ICT or other staff will not be able to lend you recharging facilities.

Backup and/or recovery

- You may be required to purchase and/or download and install specific software/ applications ("apps") onto your device in order to access your learning materials. This will be at your own expense.

Software and applicable updates

- You are responsible for regularly applying updates for any software or applications ("apps") needed for the purposes of learning prior to attending scheduled classes. This may be undertaken while connected to the AIHE network, provided this is outside of class time.

Internet Usage

Policy Statement

AIHE (and related parties) accepts the lawful and proper use of the internet as a valuable business tool. However, misuse or abuse of the internet can have a negative impact upon people's productivity and the reputation of AIHE and potentially cause harm to Users and others. Subsequently AIHE does not condone any misuse or abuse of the internet.

Purpose

The purpose of this Acceptable Use Policy is to:

- Guide people, who have been granted access to the internet through AIHE facilities, in the acceptable and permitted usage of those facilities;
- Provide examples of unacceptable usage so as to make it clear what is expected of Users; &
- Outline the potential consequences for breaching this Policy.

Scope

This Acceptable Use Policy applies to all employees, including permanent, limited duration and casual; agency temporaries, independent contractors; consultants; and authorised third parties **("Users")** who have been granted access through AIHE facilities.

Definition of use

Use of the internet through facilities provided by AIHE includes the transmission, retrieval or storage of any communications and images

All Users must ensure that they:

- Comply with all relevant State and Federal legislation including the Crimes Acts; the Anti-Discrimination or Race vilification legislation, and the Copyright Act (Cth);
- Only use the Internet for approved Business Purposes or Permitted Personal Purposes in the acceptable way (Acceptable Use);
- Do not use the Internet in an unacceptable way (Unacceptable Use);
- Do not create unnecessary business risk to AIHE by their use of the Internet (whether for Business Purposes or Personal Purposes);
- Do not load any software that has not been authorised in writing by the National Manager Network Services; and
- Report to any of the following if they become aware of Unacceptable Use:
- a Director or Associate Director;

1. Acceptable use

Subject to the General Responsibilities of every User, and the constraints of Unacceptable Use, as set out in this Policy or as directed by the Chief Executive from time to time, the following are examples of ACCEPTABLE USES.

1.1 Business purposes

Academic Purposes are AIHE purposes where the Internet is an efficient tool and aid in achieving the strategies as well as academic objectives and business plans of AIHE; these can include:

- Subject-related research, communications to students or peers and related external parties, work related investigations, and all other matters pertaining to the job requirements of each User; and
- Within the scope of work allocated to a User or a specific performance requirement of the User;

PROVIDED ALWAYS that such use complies with

- AIHE's policies and procedures in all respects (including policies on incurring expenses, authorisations, contracting, etc); and
- All the laws and regulations covering intellectual property; anti-competitive activities; misrepresentations and misleading or deceptive statements; negligence; copyright; privacy; and telecommunications laws; and does not contravene criminal, trade mark, competition, piracy, sexual, racial and other discriminatory laws.

1.2 Personal purposes

Reasonable Use for Personal Purposes - a reasonable amount of personal use is permitted, PROVIDED THAT in each cases the use:

- Is moderate in time;
- Does not incur significant or unreasonable cost for AIHE;
- Does not interfere with the employment or engagement duties of the User or his or her colleagues
- Does not promote or engage in offensive activity to any other person or User;
- Does not infringe another person's rights under any privacy, criminal, anti-discrimination, sexual, racial, ethnic, religious or political laws; and
- Does not hold out or represent (expressly or by inference) that the User is conducting the activity or use as the agent, servant, contractor or representative of AIHE.

Examples of acceptable personal use are:

- Sending and receiving personal email messages PROVIDED THAT if email messages are sent with an AIHE email address in the From: or Reply-To: header, the appropriate standard AIHE disclaimer must accompany the email to the effect that the views of the sender may not represent those of AIHE; and
- Accessing the World Wide Web for personal purposes including personal banking, accessing permitted portals such as the employee service provider for payroll Talent2, and Australian Super or the User's designated superannuation fund for superannuation guarantee or Choice matters pertaining to their salary as an AIHE employee. **Note:** AIHE will not accept any liability for any fraud or other criminal consequence resulting from a User accessing their banking details online via the AIHE internet system.

2. Unacceptable Use

Subject to this Policy (or as directed by the Chief Executive from time to time), the following are examples of UNACCEPTABLE USES or behaviour in relation to use of AIHE Internet facilities:

2.1 Illegal or Unlawful Purposes

Access for any illegal or unlawful purpose including

- Access to Internet sites that contain obscene, hateful, harassing or illegal material;
- Use of the Internet to perpetrate any form of fraud, misleading or deceptive conduct or advertising, or any form of misrepresentation;
- Use of the Internet to send or store offensive or harassing material or for any illegal or unlawful purpose; &
- Aiding, abetting or being a party to any criminal activity.

2.2 Business and Commercial Ventures

Conducting any business or commercial venture unrelated to AIHE business for the personal benefit, gain or advantage of the User (or an associate of the User) e.g. gambling, share trading, online auctioning or any other activity that may be reasonably considered to be a business or a substantial or regular commercial or private activity that has no relationship with permitted Personal Purposes or approved Business Purposes.

2.3Confidential and Commercially Sensitive Information

Disseminating, publishing or reproducing confidential or commercially sensitive information of AIHE (including academic and financial information pertaining to AIHE and related parties, suppliers, contractors, employees, etc.) to unauthorised persons or for unauthorised purposes.

2.4 Interference and Disruption

Knowingly causing interference with or disruption to any network, information service, equipment or any user thereof, including:

- Downloading files or folders from external or foreign sources that the User should reasonably know or believe may contain a virus or may use a significant amount of bandwidth (usually evident from the number of megabytes – anything more than 20 MB is Unacceptable Use unless the prior approval is given by the CEO or Academic Manager);
- Deliberate or grossly negligent introduction of any form of computer malware (viruses, worms, Trojans key-loggers or similar) to any AIHE equipment or systems; &
- Access of streaming content other than for AIHE purposes as authorised, or in such a manner as to adversely impact upon system performance or network speed.

2.5 Unsolicited Bulk Mail

Sending unsolicited bulk email for a Personal Purpose or that has not been authorised by a Director of AIHE (and subject always to both Privacy and Spam legislation in any event).

2.6 Personal Information

Disseminating personal information about any individual whatsoever (including staff, students, clients, contacts) without that person's consent or in breach of the Privacy legislation.

2.7 Pornographic Material

Transmitting, retrieving or storing of any pornographic material which is any material of an explicitly sexual nature. As there can be no possible legitimate business use for accessing or transmitting sexually explicit materials at work, the question of whether or not such material constitutes pornography is not relevant to the use of AIHE's Internet facilities and all such material is prohibited.

2.8 Defamation

Transmitting, retrieving or storing any communications or images that are defamatory. Defamation is the publication of false or derogatory material which adversely affects the reputation of a person and tends to injure him or her in their office, profession or trade.

2.9 Copyright Materials

Using the Internet to conduct or promote the unlawful distribution of copyright materials, including the downloading, distribution and playing of music or video.

Downloading copyrighted materials belonging to third parties, unless this download is permitted under a commercial agreement or other licence.

2.10 Security Breaches

Breaching security, hacking or otherwise seeking access to or avoiding authorised procedures and processes for accessing particular sites or pages of the Internet.

Circumventing user authentication or security of any host, network or account.

2.11 Wastage

Any activities relating to a Personal Purpose that either purposefully wastes AIHE time or resources or negligently use other staff time in pursuing the User's Personal Purpose or which are simply frivolous or annoying.

2.12 Network Monitoring

Executing any form of network monitoring which will intercept data not intended for the User's host, unless this activity is a legitimate and authorised part of the User's job.

3. Monitoring

AIHE's Internet-related resources and facilities are AIHE property and are supplied to Users for AIHE's business purposes. Therefore, Users should not expect the use of the internet (including the e-mail facilities) and contents of files to be private, and AIHE retains the right to read all e-mails and contents of files where it has probable cause. Furthermore, AIHE maintains the right to monitor the volume of Internet and network traffic, together with a log of the Internet sites visited by each User.

These logs of Internet usage may also reveal information such as which Internet services (including World Wide Web sites) have been accessed by the User, and the email addresses of those with whom they have communicated. AIHE may conduct automated scanning/filtering, and where an Unacceptable Use is identified or suspected, a more detailed confidential investigation will be conducted by AIHE Management

Where appropriate or necessary, disciplinary or legal action deemed may be undertaken in relation to the results of that investigation; please refer to **Consequences of Unacceptable Use**.

Furthermore, AIHE reserves the right to suspend access to Internet resources, or to impose such filtering or other access-blocking measures as it deems fit; this includes the right of AIHE , at its discretion, to suspend all personal use of the e-mail facilities.

4. Consequence of Unacceptable Use

This Acceptable Use Policy has been drafted in such a way to protect both AIHE and Users and any breach of this policy will be dealt with in accordance with AIHE's disciplinary action policy and procedures, as well, where applicable, the Anti-Fraud Policy.

AIHE will review any alleged breach of this Acceptable Use Policy on an individual basis.

If the alleged breach constitutes:

- Any criminal or illegal activity, the matter will be referred to the law enforcement authorities and additional legal action by AIHE may also be taken if the activity is proven.
- Serious and willful misconduct, such as breaching the User's duty of fidelity to AIHE (for example, emailing confidential information of AIHE to a competitor), the User shall be given an opportunity to be heard in relation to the alleged breach and if it is admitted or clearly established to the satisfaction of AIHE the breach may be treated as grounds for summary dismissal.

In other cases, an alleged breach an employee shall be dealt with as follows:

- Initially, the User shall be informed of the alleged breach, given an opportunity to respond to the allegation, and if it is not satisfactorily explained, be required to desist from, or where applicable, to remedy the breach. Disciplinary action may also be taken, depending on the severity of the breach
- If the Unacceptable Use does not cease, AIHE may suspend the User's access to the Internet, provide counselling or instigate disciplinary procedures, which could lead to termination of employment.
- Any breach of this Acceptable Use Policy by a User who is not an employee of AIHE but has been granted access through the organisation's facilities will be dealt with under the relevant contract of engagement or access, which may include termination of the contract.
- In addition, AIHE may immediately withhold all access to the internet facilities and in alleged severe cases, immediately suspend the employee on full pay until the investigation is completed or if not an employee, remove the person from premises.

5. Dissemination of the Policy

A copy of this Acceptable Use policy will be included in all contracts of employment; this is the responsibility of the Human Resources Manager.

Where an Agency temporary is retained, the Hiring Manager must ensure that the person signs a copy of the Acceptable Use policy, which must then be forwarded to Human Resources.

If a third party is engaged, such as a contractor, the Engagement Manager must ensure that the person signs a copy of the Acceptable Use policy, which must then be retained with the other contractual documents

Agreement

This policy is one of the policies and procedures of AIHE to which each user has formally agreed to be bound upon his or her employment by or engagement with AIHE. However, all **Users** are also required to sign the acknowledgment below confirming they have read and understood this policy and the consequences of a breach.

Useful Links

Please find a list of links that may be of use whilst at AIHE.

Australian Skills Quality Authority: www.asqa.gov.au

Training.gov.au: http://training.gov.au

Australian government department of education: http://education.gov.au

Department of employment: http://employment.gov.au

Australasian Society for Ultrasound in Medicine: www.asum.com.au

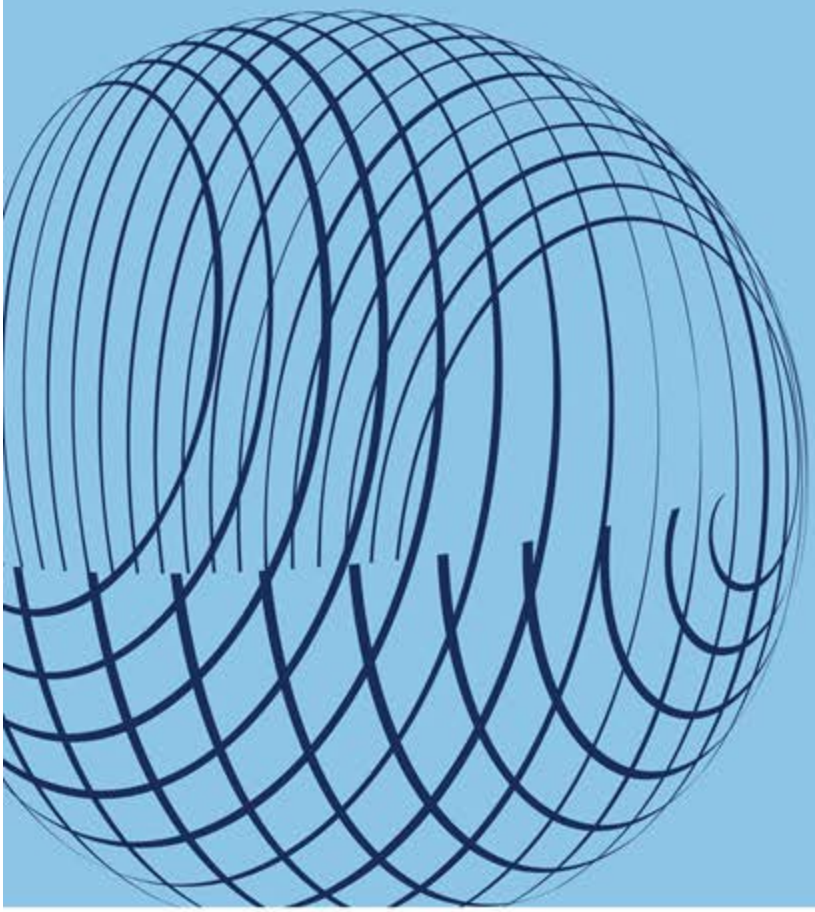
Australian sonographers association: www.a-s-a.com.au

Australian Sonographer Accreditation Registry: www.asar.com.au

Australian Institute of Radiography: www.air.asn.au

AIHE
Australian Institute of Healthcare Education

AUSTRALIAN INSTITUTE OF HEALTHCARE EDUCATION



Assessment Policy

Graduate Diploma of Diagnostic Medical Ultrasound
(General Discipline)

Version 4 Last updated November 2015

Introduction

The extensive volume of clinical information required to be taught and understood by the student during this course ensures that assessment tasks, although similar in style throughout the course will assess the wide variety of clinical tasks a general sonographer may experience in their day to day clinical workplace environment. Prior to a summative assessment being undertaken the student will have many formative assessment tasks designed to build the student's knowledge and ability progressively through the term and course duration.

Similar assessments are repeated most terms as a part of the spiral learning model. This learning model employed by AIHE ensures the theoretical knowledge and clinical proficiency standards of performance increase throughout the course duration with the qualified student being able to perform at industry standards as an accredited medical sonographer.

The variety of assessments throughout the course encompass a Portfolio, Clinical procedures record book, Clinical examinations, Supervisor reports, Case studies, Projects, Written knowledge assessments and Clinical examination critique & analysis tasks.

Explanation of Vocational Education Assessments

Vocational education uses both Formative and Summative Assessments as a way to determine the eventual competency of a student. The differences are outlined below.

Formative assessment

A formative assessment provides feedback to the teaching staff and student about their progress on a particular task over a period of time of learning or practice. A formative assessment is an integral part of the ongoing education of the student so as both the supervisor, academic provider and student may monitor their learning and progression.

Throughout the course there are a number of formative assessments designed to provide the student, AIHE staff and clinical site supervisor information about where the student is in their journey to becoming a competent sonographer.

Summative assessment

A summative assessment is the summary at the end of a period of learning. A summative assessment determines under vocational education guidelines whether a unit of competency or performance criteria has been met for the purpose of formal recognition. Most summative assessments at AIHE are undertaken at the end of a certain period of study. In the case of clinical assessments they are undertaken at the end of year 1 and year 2.

In order to undertake a summative assessment the assessor must hold a certificate IV in Training and Assessment. AIHE policies also state that all summative assessments are to be undertaken by AIHE certified staff members, however in all on the job clinical assessments we encourage the supervisor or their nominated representative to be present for the assessments and offer feedback to the process. It is the responsibility of AIHE to arrive at the final decision of a student being deemed competent or not yet competent and we use all the evidence provided to us to help in that determination. In the event an on the job clinical assessment does not proceed to a satisfactory standard AIHE is able to review formative assessments to help arrive at a final decision with respect to competency. Also, under the AIHE assessment guidelines, we can issue a supplementary assessment after a designated period of time of supervised clinical work.

Satisfactory & Not Yet Satisfactory versus Competent & Not Yet Competent

The word competency under vocational education guidelines can only be used when the entire period of study of a particular unit of study/competency is finished, and the student is deemed competent across all parameters of that unit of study/ competency as outlined in the assessment strategy. All assessments, whether they be formative or summative, along the way are deemed as a satisfactory or not yet satisfactory performance.

Assessment types

Portfolio

The portfolio is to be completed progressively throughout the course. The aim of the portfolio is to allow the student to build a sample of their work (clinical and theoretical). In Year 2 the student is then required to undertake a major project of reflection on work they undertook in Year 1.

Clinical Procedures Record Book (Log book)

The clinical procedures record book is one way that AIHE is able to gauge if the student is participating fully in clinical practice. The recommended examination numbers are reviewed at the end of each term and at clinical site visits by AIHE staff to ensure the student is being exposed to a broad range of clinical examinations. In the event the student is not being exposed to a broad range of examinations AIHE will endeavour to relocate the student to a different workplace in order that they can.

The numbers are only recommended and if exceeded or not met it does not necessarily indicate to AIHE that the student is a high or low performing clinical student.

Clinical examination

Most clinical examinations are undertaken in the workplace and examined by an AIHE staff member or suitably qualified external examiner. The clinical site supervisor is NOT expected to be the clinical examiner.

Clinical examinations are assessed under industry accepted protocols for each body region. The students are taught these protocols during lessons and are expected as part of their portfolio to summarise these protocols for their future reference.

The student undertakes numerous clinical examinations and it is expected that the student performs a broad range of examinations at each subsequent examination and not repeatedly be examined on the one type of examination. A record will be kept of which examinations the student has already been examined on for subsequent assessments.

AIHE has stipulated a time limit to all clinical examinations. These time limits are designed for the average "normal" examination and in Year 1 the limit is 45 minutes and Year 2 30 minutes for all examinations except obstetrics, vascular and musculo-skeletal which is 45 minutes. It is imperative that on graduation the student is able to be a contributing member of the sonographic team and the average general abdominal examination is approximately 30 minutes for the normal patient and 45 for an obstetrics examination in private practice within most clinics in Australia which is the reasoning behind the time limits.

AIHE will not penalise a student during a clinical examination if the patient is difficult to examine or has unforseen pathology or circumstances beyond all people's control. If the student is required to cease the examination in the time limit due to such circumstances the reasons will be listed on the assessment form and during the discussion phase of the assessment areas not covered will be verbally assessed.

If the student cannot complete the typical "normal" examination in the time limits set, however, AIHE may request that the student undertake additional clinical practice hours and undertake a supplementary examination.

Our on the job clinical assessments are designed to be undertaken over a period of 2.5 hours so that a variety of examinations and complexities is able to be assessed to determine the students overall clinical abilities and standards.

Supervisor report

The supervisor report is designed so that the clinical supervising sonographer is able to assess the student's performance over a period of time. This report is a formative third party report under the Vocational sector guidelines.

Case study

Throughout the course there are numerous case studies submitted for assessment. The case study is designed so the student has to critically reflect on their performance for a particular clinical examination and build upon the knowledge gained during this reflection for subsequent examinations they perform. It is expected the standard and depth of reflection increases throughout the duration of the course, and in particular from year 1 to year 2.

In year 2 the major project in term 3 requires the student to choose 4 different clinical examinations they have previously added to their portfolio and undertake a critical reflective analysis on their progress throughout the course and how they have adapted their approach to clinical practice to improve not only image quality, but underpinning knowledge and how this improved knowledge could have contributed to a higher quality clinical examination.

Major Project

Aside from the critical reflective major project outlined in case studies above there are two other major projects in year 2, terms 1 and 2. These projects are focussed on an extensive literature search on an area of interest to the student and then to undertake a small research project around this area of interest.

Holistic written examination: short answer & Holistic written examination: clinical examination critique & analysis

The end of term holistic written examinations are designed to test the student's underpinning knowledge in theoretical aspects of ultrasound as well as image interpretation of the ultrasound examination.

All holistic examinations follow the same format, and the depth of knowledge examined and expected of the student is increased throughout the course. The unit of competency Critique, Analyse, Diagnose and Report on the Diagnostic Medical Ultrasound Procedure in year 2 ensures the student is reassessed on the topics undertaken in year 1.

The end of Year 2 holistic examinations are designed to assess the student's ability to use and implement the knowledge acquired throughout the two year course.

Rules of Assessment

Awarding of Competency

Clinical Performance Assessments

The clinical assessment forms are used multiple times throughout the course for both formative and summative assessments. In order to achieve a satisfactory outcome in any one clinical assessment the student MUST achieve a satisfactory result for ALL areas on the assessment form.

If the student has received a "not yet satisfactory" in a formative assessment the teacher will discuss with the student how they may improve their performance and possibly offer the student additional tasks to determine if they are able to achieve a satisfactory result or not in that task.

Clinical examinations are assessed under industry accepted protocols for each body region. The students are taught these protocols during lessons and are expected as part of their portfolio to summarise these protocols for their future reference.

If the student has received a "not yet satisfactory" in a summative clinical assessment the following will apply:

Clinical scanning techniques (in class)

Reassessed 14 days (2 weeks)

If the student has received a "not yet satisfactory" in a summative clinical assessment in class (simulation) a supplementary clinical examination will be offered two weeks after the initial assessment as long as the student has spent a minimum of 10 additional documented hours in the two weeks to attain the skills required to achieve a satisfactory outcome. If they are still graded as "not yet satisfactory" following the supplementary examination AIHE will not permit the student entry to the next phase of the course.

Clinical examination assessment (at clinical site)

If the student has received a "not yet satisfactory" in a summative clinical assessment a supplementary clinical examination will be offered one month after the initial assessment as long as the student has spent a minimum of 20 documented hours per week in clinical practice and/or in the clinical applications laboratory during that month to attain the skills required to achieve a satisfactory result and compiled at least 10 clinical examinations for AIHE review in the area of not yet satisfactory. If they are still graded as "not yet satisfactory" following the supplementary examination AIHE will not permit the student entry to the next phase of the course. If the clinical assessment is deemed "not yet satisfactory" at the end of the second year of the course the student may be given up to three months additional clinical practice time before reassessment.

Failure to be deemed satisfactory will result in a not yet competent final assessment and inability to be recognised as an accredited sonographer.

If a student wishes to appeal any clinical assessment grade they may do so through the assessment appeals procedure. Any appeal will be evaluated on a case by case basis taking into consideration the student's overall performance throughout the term and year. Both formative and summative assessment tasks will carry much weight on the final decision.

Clinical assessment grading is outlined in the table below. (Note: throughout the year each individual assessment is graded as "satisfactory" or "not yet satisfactory". On completion of each academic year the final grade will be determined as either "competent" or "not yet competent".

CODE	GRADE	EXPLANATION
S C	Satisfactory Competent	all ticks are in the Satisfactory column all summative assessments are satisfactory
NYS NYC	Not Yet Satisfactory Not Yet Competent	1 or more ticks in the Not Yet Satisfactory column 1 or more summative assessments are Not Yet Satisfactory

Underpinning Knowledge Assessments

The underpinning knowledge assessments include the written examinations / case study / major project / presentations.

If the student has received a "not yet satisfactory" in a formative assessment the teacher will discuss with the student how they may improve their performance and possibly offer the student additional tasks to determine if they are able to achieve competency or not in that task.

If the student has received a "not yet satisfactory" in a summative assessment the following will apply:

Case study / Major Project / Presentations

Each component of the case study / major project / presentations must receive at least 50% of allocated marks to be awarded an overall satisfactory result for this assessment type, otherwise it will be a Not Yet Satisfactory assessment.

A summative case study / major project / presentations that has been marked as Not Yet Satisfactory will be required to be resubmitted within 14 days (2 weeks) of the date of return for remarking. Failure to resubmit will result in an automatic "Not Yet Satisfactory" result and inability to proceed with the course.

One reattempt only is permitted per case study / major project / presentations. If, on resubmission, the case study is still deemed "Not Yet Satisfactory" the student will not be able to proceed with the course.

End of term holistic written examinations

These assessments refer to the written examinations: short answer as well as the clinical examination critique and analysis assessments held at the end of most terms.

AIHE accepts that in the field of medicine it cannot be expected for students, and qualified staff alike, to have a complete knowledge of every intricate area of medicine; or in this case ultrasound. The end of term underpinning knowledge assessments have been designed to repeatedly assess similar aspects of the ultrasound theory at increasing difficulty of comprehension and clinical subject areas in a holistic manner as the course proceeds through the two years. AIHE acknowledges that even the most competent qualified sonographer may not be able to fully answer all questions in such an assessment.

For this reason AIHE has determined that for this type of assessment a satisfactory result will be awarded for the assessment when a total mark of 50% or higher is obtained for each assessment.

A supplementary examination will be offered two weeks after the return of results if the student has obtained a result of 43% or higher. If they are still graded as "not yet satisfactory" following the supplementary examination AIHE will not permit the student to continue with the course.

If a student wishes to appeal any assessment grade they may do so through the assessment appeals procedure. Any appeal will be evaluated on a case by case basis taking into consideration the student's overall performance throughout the term and year. Both formative and summative assessment tasks will carry much weight on the final decision.

Underpinning knowledge (theoretical) assessment grading is outlined in the table below. Note: throughout the year each individual assessment is graded as "satisfactory" or "not yet satisfactory". On completion of each academic year the final grade will be determined as either "competent" or "not yet competent".

CODE	GRADE	EXPLANATION
S C	Satisfactory Competent	50% or higher all summative assessments are satisfactory
NYS NYC	Not Yet Satisfactory Not Yet Competent	< 50% 1 or more summative assessments are Not Yet Satisfactory

Return of assessments

All assessments will be returned within 14 days (2 weeks) with feedback as appropriate. If the student is required to resubmit their assessment they will be expected to do so within 14 days of receiving their assessment return and feedback.

Failure to submit an assessment

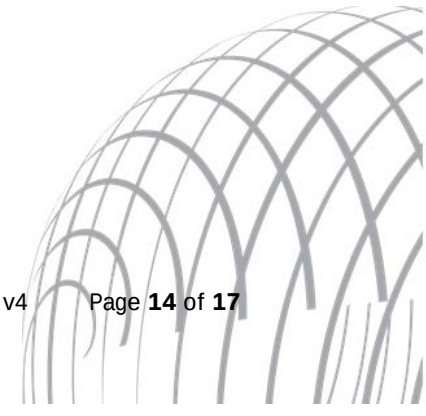
Failure to submit or attend an assessment task by the due date will result in an automatic Not Yet Satisfactory grading unless a request for special consideration has been received, and granted prior to the assessment due date. Exceptional circumstances will also be taken into consideration on a case by case basis with appropriate documentation.

Request for special consideration

A request for special consideration for an assessment item, or clinical placement request, must be received prior to the assessment date and at least four weeks prior to any clinical placement visits are timetabled. Each request will be evaluated on an individual basis by the Academic Manager. A response will be returned within five working days.

If you are not satisfied with the outcome of the request a Complaints and Appeals Form may be completed and submitted.

The request for special consideration form is available from AIHE.



Supplementary assessments

Supplementary assessments are offered for summative assessments only. If the student has received a "not yet satisfactory" in a formative assessment the teacher will discuss with the student how they may improve their performance and possibly offer the student additional tasks to determine if they are able to achieve competency or not in that task.

Supplementary assessments are offered under the following circumstances:

1. A student who has not attended a summative assessment and has an approved request for special consideration.
2. A student who has received a not yet satisfactory in a summative clinical assessment.
3. A student who has received a not yet satisfactory in any other summative assessment under the conditions outlined in detail below.

Only one supplementary summative assessment is provided for each assessment. Failure to achieve a satisfactory result in a supplementary summative assessment will result in automatic dismissal from the entire course.

The rules of assessment for such circumstances are outlined below:

Clinical Assessments

In order to achieve a satisfactory result in any one clinical assessment the student MUST achieve a minimum of satisfactory for ALL areas on the clinical assessment form.

If the student has received a "not yet satisfactory" in any section of the clinical assessment form the following supplementary assessment conditions apply:

Clinical scanning techniques (in class)

Reassessed after 14 days (2 weeks)

If the student has received a "not yet satisfactory" in a summative clinical assessment in class (simulation) a supplementary clinical examination will be offered two weeks after the initial assessment as long as the student has spent a minimum of 10 additional documented hours in the two weeks to attain the skills required to achieve competency. If they are still graded as "not yet satisfactory" following the supplementary examination AIHE will not permit the student entry to the next phase of the course.

Clinical examination assessment (at clinical site)

Reassessed after one month (reassessed three months at the end of year 2 clinical assessment)

If the student has received a "not yet satisfactory" in a summative clinical assessment a supplementary clinical examination will be offered one month after the initial assessment as long as the student has spent a minimum of 20 documented hours per week in voluntary clinical practice and/or in the clinical applications laboratory during that month to attain the skills required to achieve a satisfactory result and compiled at least 10 clinical examinations for AIHE review in the area of not yet competent.

If they are still graded as “not yet satisfactory” following the supplementary examination AIHE will not permit the student entry to the next phase of the course.

Underpinning Knowledge Assessments

The underpinning knowledge assessments include the written examinations / case study / major project / presentations.

If the student has received a “not yet satisfactory” in a summative assessment the following will apply:

Case study / Major Project / Presentations

Each component of the case study / major project / presentations must receive at least 50% of allocated marks to be awarded an overall satisfactory result for this assessment type, otherwise it will be a Not Yet Satisfactory assessment.

A summative case study / major project / presentations that has been marked as Not Yet Satisfactory will be required to be resubmitted within 14 days (2 weeks) of the date of return for remarking. Failure to resubmit will result in an automatic “Not Yet Satisfactory” result and inability to proceed with the course.

One reattempt only is permitted per case study / major project / presentations. If, on resubmission, the case study is still deemed “Not Yet Satisfactory” the student will not be able to proceed with the course.

End of term holistic written examinations

These assessments refer to the written examinations: short answer as well as the clinical examination critique and analysis assessments held at the end of most terms.

AIHE accepts that in the field of medicine it cannot be expected for students, and qualified staff alike, to have a complete knowledge of every intricate area of medicine; or in this case ultrasound. The end of term underpinning knowledge assessments have been designed to repeatedly assess similar aspects of the ultrasound theory at increasing difficulty of comprehension and clinical subject areas in a holistic manner as the course proceeds through the two years. AIHE acknowledges that even the most competent qualified sonographer may not be able to fully answer all questions in such an assessment.

For this reason AIHE has determined that for this type of assessment a satisfactory result will be awarded for the assessment when a total mark of 50% or higher is obtained for each assessment.

A supplementary examination will be offered two weeks after the return of results if the student has obtained a result of 43% or higher. If they are still graded as “not yet satisfactory” following the supplementary examination AIHE will not permit the student to continue with the course.

Assessment appeals

If a student wishes to appeal any clinical assessment grade they may do so through the assessment appeals procedure. Any appeal will be evaluated on a case by case basis taking into consideration the student's overall performance throughout the term and year. Both formative and summative assessment tasks will carry much weight on the final decision.

Any assessment appeal requires the form for Complaints and Appeals, available on the AIHE website, to be completed and submitted. A written response should be received by the complainant within five working days.