

**ASAR**Australian Sonographer
Accreditation RegistryAustralian Sonographer Accreditation Registry Limited
(02) 8850 1144, registry@asar.com.au, www.asar.com.au

Appendix 4 – Subject Outline

Name of Subject/Unit

Subject/Unit Code

(Use a separate template for each subject/unit in the course)

Section 1: General Information

1.1 Core or elective subject/unit Indicate if the subject/unit is a:

☒ core subject/unit

☐ elective subject/unit

☐ other (please specify):

1.2 Subject/unit weighting

If applicable, indicate, the weighting of this subject/unit and the total course points (eg 10 credit points for the subject/unit and 320 credit points for the course).

Subject/Unit Credit Points (eg 10 credit points)

Total Course Credit Points (eg 320 credit points)

1.3 Student workload

Indicate below, the expected student workload per week for this subject/unit:

Number timetabled hours/week*

Number personal study hours/week**

Number clinical placement hour/week***

Total workload hours/week****

* Total time spent per week at lectures, tutorials, etc

** Total time students are expected to spend per week in studying, completing assignments, etc

*** Total time spent per week on clinical placements

**** That is, * + ** + *** = workload hours.

**ASAR**Australian Sonographer
Accreditation RegistryAustralian Sonographer Accreditation Registry Limited
(02) 8850 1144, registry@asar.com.au, www.asar.com.au**1.4 Mode of Delivery**

Indicate if this subject/unit is delivered (You may tick more than one box).

☐

face to face

☒

online

☐

independent learning module/untimetabled study

☐

by a combination of modes (please specify)

☐

through a practicum

☐

other

Other (please specify)

1.5 Pre-requisites and / or assumed knowledge

Are students required to have undertaken a prerequisite/co-requisite subject/unit(s) for this subject/unit?

☐

Yes

☒

No

If **yes**, provide details of the prerequisite/co-requisite or assumed knowledge requirements below:**1.6 Resource requirements**

Do students require access to specialist facilities and/or equipment for this subject/unit (eg specialist facilities, computer access, equipment, particular case / scan types, libraries)?

☒

Yes

☐

No

If **yes**, provide details of the requirements below. Please attach floor plans and photographs or videos showing the facilities and equipment that will be used for the course.

Students need to access the learnonline (moodle) website for this subject. The website provides resource, assessment portals & discussion boards. Students also can access the library and a number of online texts.



ASAR

Australian Sonographer
Accreditation Registry

Australian Sonographer Accreditation Registry Limited
(02) 8850 1144, registry@asar.com.au, www.asar.com.au

Section 2 – Academic Details

2.1 Student learning outcomes/objectives

List the clinical and academic learning outcomes / objectives students would be expected to attain by successfully completing this subject/unit (link to assessment tasks (refer to 2.4 below)):

- a)
- b)
- c)
- d)
- e)
- f)
- g)
- h)
- i)
- j)

2.2 Subject/unit content and structure

Provide details in the table below, about the subject/unit content and how it is structured, including practical components such as laboratory, studio and work-based placements. **NOTE:** Please attach course materials where available

The study period's work is divided into 8 modules. Each module has a corresponding section on the learnonline site. The study guide will direct students to core text readings, and the course learnonline page will provide further online resources to enhance knowledge of the material. Students are expected to read outside of the set text using library and internet resources.

Self-checking quizzes are available on the learnonline site, so that students can test their progress.

Instead of one large assignment, the assignment is spread over four submission dates. This will allow students to receive feedback on their answers as they progress through the course.

The assignment questions and quizzes will contribute to each student's final mark, but are more importantly, a tool with which feedback can be provided on how students are progressing.

The following lists the content covered:

Weeks 1 and 2: Interactions of ultrasound with tissue
Weeks 3 and 4: Pulsed ultrasound and transducers
Weeks 5 and 6: Signal processing and modes of display
Week 7 and 8: Artefacts
Weeks 9, 10 and 11: Doppler ultrasound and Doppler artefacts
Week 12 and 13: Bioeffects and Safety
Week 14: Equipment performance and Quality Control

2.3 Teaching methods/strategies

Briefly describe below, the teaching methods/strategies (face to face lectures, online tutorial) used in this subject/unit:

The course is online and modularised, with students advised to attend to each module in a time frame documented on the study calendar. Each module contains resources/ activities including online lectures, specific reading, quizzes and assignments. There is a two-week teaching break (mid semester break). Discussion forums are available online for students to ask their lecturer questions and to engage with their fellow students. Introductory information includes an outline of the course, outline of the assessments and general resources including an electronic copy of the study guide, links to relevant websites and learning activities.

2.4 Student assessment:

Provide, in table format as shown below, a schedule of formal clinical and academic assessment tasks and major examinations for the subject/unit

Assessment Type (eg Assignment – 2000 word essay (specify topic), Examination (specify length))	When Assessed (eg Week 5)	Weighting (eg 10% of Total subject/unit marks)	Learning Outcomes Assessed (link to 2.1 above eg (a), (b))
Assignment 1 – Key Concept Presentation: 500 words	Week 6	15	All
Assignment 2 – Key Concept Presentation: 1500 words	Week 13	25	All
Assignment 3 – Key Points Portfolio: 2500 words	Week 14	45	All
Online Quiz x 4	Ongoing	15	All

2.5 Prescribed and recommended readings:

Provide below, in formal reference format, a list of the prescribed and recommended readings:

- Aldrich, J. E. (2007). Basic physics of ultrasound imaging. *Critical Care Medicine*, 35(5, supplement), 131–137.
- Gent, R. (1997). Image resolution. In *Applied physics and technology of diagnostic ultrasound* (pp. 91–104). Prospect, S.A.: Milner Publishing.
- Necas, M. (2012). *Artifacts in diagnostic medical ultrasound*. Hamilton, N.Z.: M Necas.
- Hedrick, W. R., & Wagner, P. R. (2013). Extracts from *Technology for diagnostic sonography*. In *Technology for diagnostic sonography: study guide and laboratory exercises* (pp. 61–63, 105–115). St. Louis, Mo.: Elsevier/Mosby.
- Hedrick, W. R., Hykes, D. L., & Starchman, D. E. (2005). Basic ultrasound physics: echo ranging: biologic effects: extracts. In *Ultrasound physics and instrumentation* (4th ed., pp. 1–18, 21–22, 301–312). St. Louis, Mo.: Elsevier Mosby.
- Kremkau, F. W. (2011). Excerpts from: *Instruments*. In *Sonography principles and instruments* (8th ed., pp. 76–81, 86–87, 116–117). St. Louis, Mo.: Elsevier/Saunders.
- Gill, R. (2012). *The physics and technology of diagnostic ultrasound : a practitioner's guide*. Sydney: High Frequency Publishing.
- Martin, N. (2012a). *Artifacts in diagnostic medical ultrasound*. Vol. 1, Grayscale artifacts. Hamilton, N.Z.
- Martin, N. (2012b). *Artifacts in diagnostic medical ultrasound*. Vol. 1, Grayscale artifacts. Hamilton, N.Z.
- Anderson, B. (2017b). Basic principles of M-mode echocardiography. In *Echocardiography: the normal examination and echocardiographic measurements* (3rd ed., pp. 71–73). Manly, Queensland: Echotext.
- Anderson, B. (2017a). Basic principles of colour doppler imaging. In *Echocardiography: the normal examination and echocardiographic measurements* (3rd ed., pp. 129–137). Manly, Queensland: Echotext.



ASAR

Australian Sonographer
Accreditation Registry

Australian Sonographer Accreditation Registry Limited
(02) 8850 1144, registry@asar.com.au, www.asar.com.au

Anderson, B. (2017c). Basic principles of spectral doppler. In Echocardiography: the normal examination and echocardiographic measurements (3rd ed., pp. 83–103). Manly, Queensland: Echotext.

2.6 Required Attachments:

Please provide the following materials for each subject:

1. The learning materials for the student
2. The teaching materials
3. The assessment tasks (academic and clinical)
4. Any materials provided to workplace supervisors.