Course Report

1. Course Details

Course Name:	Ultrasound Physics and Instrumentation	
Course Name (Short):	Ultrasound Physics and Instr	
Subject Area:	Radiography(RADY)	
Catalog Number:	5030	
Course Level:	5	
AQF Course Level:	8	
Career:	PGRD	
Unit Value:	4.5	
Owner	Percent Owner	Primary Owner?
UniSA Allied Health & Human Performance(ALH)	100%	Y
Year of Introduction:	2013	
Study Period:	Study Period 1 - 2013	
Implementation Date:	07 Jul 2023	
Is this Course available as a University Wide Elective?	N	
Grading Basis:	Graded	
Course Field of Education:	(061501) Radiography	
HECS Band:	Band 2	
Work Experience / Placement Type:	Does not involve clinical/work experience placement	

General Comments

2. Course Prerequisite(s)

Prerequisite Comment only

3. Course Co-requisite(s)

Corequisite Comment only

4. Syllabus statement

Course Aim

The aim of this course is to introduce students to the physical principles and instrumentation of diagnostic medical ultrasound.

Course Content

Fundamental ultrasound physics, acoustic properties of tissue, transducers, focusing methods, resolution, signal processing, modes of display, real–time principles and instrumentation, digital signal and image processing, principles of Doppler ultrasound, contrast agents, biological effects, image recording devices, quality control, equipment selection, image optimisation, greyscale and Doppler artefacts and recent advances in medical sonography.

Course Objectives

No	Objective
1	Give an account of the physical principles of ultrasound.
2	Explain the components and performance of diagnostic ultrasound equipment including image optimisation and recent advances
3	Identify A, B and M-mode principles and the principles of real time ultrasound.
4	Explain the principles of Doppler ultrasound including the application of PW, CW and colour doppler in ultrasound practice.
5	Describe the interaction of medical ultrasound with biological tissue and possible biological effects.
6	Recognise and explain the formation of artefacts within greyscale and doppler images.

Graduate Qualities							
	GQ1	GQ2	GQ3	GQ4	GQ5	GQ6	GQ7
1	Y	N	N	Y	N	Y	N
2	Y	Y	Y	Y	Y	Y	N
3	Y	Y	Y	Y	Y	Y	Y
4	Y	N	Y	N	Y	Y	N
5	Y	Y	Y	N	N	Y	N
6	Y	Y	Y	Y	N	Y	N

5. Course Offerings

Offer No.	Delivery Mode	Partner Name	Location	Language	Teaching Method	Intensive Mode?
1	EXT		City East	ENG	Online	N

6. Staff

Staff assigned to the Entire Course

Primary Coordinator

Mrs Emilie Rasheed

Staff Name	Study Period	Academic Role
Ms Gillian Carr	Full Year	Administrator (Full)
Mrs Jeanette Cordwell	Full Year	Administrator (Full)
Ms Danielle Gericke	Full Year	Administrator (Full)
Dr Bec Perry	Full Year	Administrator (Full)
Miss Danijela Prso	Full Year	Administrator (Full)
Miss Bec Thornton	Full Year	Administrator (Full)
Ms Kathryn Waterman	Full Year	Administrator (Full)

Staff assigned to Specific Offerings

Offering	Staff Name	Study Period	Academic Role
1. EXT, CEA, OL	N/A	N/A	N/A

7. Teaching & Learning Arrangements

Offering	Teaching & Learning Type	Duration	Frequency
1. EXT, CEA, OL	External (Online)	-	13 weeks

Is this Course required to be Timetabled in Syllabus Plus?	N

8. Course Assessment

1. EXT, CEA, OL

No.	Format	Domain	Type	Group Work	Length	Duration	Weighting	Sub-weighting	Obj.
1	Single	Oral	Presentation	N	500 words	-	15%		1
2	Single	Oral	Presentation	N	1000 words	-	25%		1,2,3
3	Single	Written	Portfolio	N	2500 word equivalent	-	45%		1,2,3,4,5,6
4	Single (Continuous)	Written	Test/Quiz	N			15%		1,2,3,4,5,6
					-	10 mins		25%	
					-	10 mins		25%	
					-	10 mins		25%	
					-	10 mins		25%	

Authentic Assessment Statements	
No.	Authentic Assessment Statement
1	
2	
3	
4	

Additional Assessment Requirements	
Students must submit each assessment component to obtain a pass for this course as per accreditation requirements.	
Does this course comply with assessment policy?	Y
Has an Application for a Variation been Approved by the Academic Unit?	N/A
Date of Approval:	N/A
Approving Body:	N/A

Compliance Comments

Non-standard Assessment Requirements	
Is Supplementary Assessment available for this Course?	Y
Is Supplementary Exam available?	N
Is a final exam offered?	N

9. Textbooks

Course Textbook(s)	Authored by UniSA Staff member?
-, Online resources will be advised	N