University of South Australia
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PROGRAM REACCREDITATION REVIEW REPORT

1 Program summary			
Program	***Name:*** Graduate Certificate in Breast Imaging		***Code***: ICBR, ICBRF
Academic Unit			
Summary details	***Year first offered:*** 2011	***Duration of the program:*** *(in equivalent full-time years)* *0.5*	***Total unit value:*** ***18***

2 Purpose of the program and strategic considerations

The Graduate Certificate in Breast imaging (ICBR) is designed to provide medical radiation professionals and other allied health professions with the mechanism to achieve an accredited professional competency and develop new skills and knowledge in the specialist area of breast ultrasound. The program was last accredited in 2019 for a period of five years.

This program is unique to UniSA. There are no other competitor programs in Australia where students complete four courses and achieve accreditation to perform breast sonography with the Australian Sonographers Accreditation Registry (ASAR) under a Breast Sonography category.

In 2015, a new program code ICBRF was introduced to allow New Zealand students to study in New Zealand and Australian students who are not able to complete at least one course in Australia to study overseas. Enrolments in this program has been historically low with only three enrolments and completions seen since 2015 (one in 2016, one in 2017 and one in 2018). All three students were from New Zealand which now offers its own breast sonography course although it is not accredited. Furthermore, this course does not attract ICBRF or international applicants due to the requirement for the Mammography course to be conducted on site at UniSA. New Zealand now offer a Postgraduate Sonography program with graduates eligible for registration with the New Zealand Medical Radiation Technologist Board in the ultrasound scope of practice. There have been no international applicants in the past four years.

There is an acknowledged workforce shortage in medical sonography. To attract a Medicare rebate, an ultrasound must be performed by an accredited sonographer. This graduate certificate offers a pathway for radiographers and other allied health professionals to become accredited and eligible for Medicare rebates for breast sonography without the necessity to complete the full IGSO program.

Graduates are employed as accredited breast sonographers in public hospitals, private practices and government and private breast screening clinics. Many private radiography practices upskill mammography staff to be able to be eligible for Medicare rebatable breast ultrasounds. Most graduates are employed by the workplace they complete their training in. As a result, overall employment outcomes for the past four years (2018 – 2021) have been at 100%.

The commencing headcount is shown in the table 1. Entry requirements do not require applicants to hold a training position, but applicants are advised that the program requires a logbook with supervised ultrasound experience in Breast Sonography. Students are responsible for organising their own training position with an ASAR accredited supervisor in order to acquire the training experience.

Table 1: Student enrolments (headcount)

Year	2018	2019	2020	2021	2022
Commencing	19	9	26	19	24
Continuing	18	19	5	20	9

Some students, unable to secure a training position, have withdrawn from the program as they were unable to complete the scanning requirement co-requisite of RADY 5002 Sonography of 75 specified scans. Traditionally, most students in ICBR are already employed in imaging departments. Retention rates vary year to year, and mostly are fair compared to the overall university rate for that year (Table 2).

Table 2: Retention Rates

Year	2018	2019	2020	2021
Commencing program Retention	70.6%	42.9%	79.2%	87.5%
Continuing Program Retention	66.7%	50%	100%	Not available
Program Retention	70%	44.4%	80%	53.8%
University Retention	75%	66.7%	80%	76.9%

With most students holding employment in imaging or specialist departments, part time enrolment is common. The GPA of commencing and continuing students remains high.

Students are primarily female with no male enrolments seen since 2016. Students have been predominantly in the 30 – 49-year age group with most students speaking English at home (Table 3). The numbers of students in an equity group are low. The program attracts regional and remote students due to the online delivery of three of the four courses in the program.

	2018	2019	2020	2021	2022
Disability %	0.0%	0.0%	3.1%		
NESB %	2.8%	3.7%	6.2%		
Low SES %	11.1%	10.7%	12.9%	15.4%	6.1%
Regional Remote %	33.3%	17.9%	25.8%	25.6%	24.2%
Aboriginal %	0.0%	0.0%	0.0%	0.0%	0.0%

3 Aims and objectives of the program

The aim of the program is to provide diagnostic radiographers and other allied health professionals with the mechanism to develop new skills and knowledge in specialist areas of mammography and breast ultrasound.

Graduates of this program are eligible to apply for professional accreditation from the Australian Sonographer Accreditation Registry (ASAR) under the Accredited Breast Sonographer category.

Graduate Quality	Body of Knowledge
Program Objective	Demonstrate a comprehensive knowledge of breast imaging equipment, ultrasound scanning techniques and the quality management of equipment and diagnostic images.
How learning outcomes are met	
Students are required to enrol in Ultrasound Physics and Instrumentation (RADY 5030) as one of their first courses in the program. This course introduces students to the physics principles of ultrasound and quality management of ultrasound equipment. The subsequent course of Breast Sonography (RADY 5002) and Mammography (RADY 5003) build upon this knowledge to learn about equipment and skills specific to breast imaging.	

Graduate Quality	Lifelong learning
Program Objective	Critically reflect on their own professional practice and participate in continuing professional development to keep their knowledge and skills in breast imaging current.
How learning outcomes are met	
The professional Issues for Sonographers (RADY 5024) course requires students to reflect on sonographic professional practice and how they will fit into the required role. Critical appraisal of the literature, along with how to identify best practices within the literature and translate this into clinical practice is also addressed in this course. Within this same course, students are introduced to Mahara ePortoflios. This platform is continued through their assessment components in Breast Sonography (RADY 5002) as the student builds evidence of learning as well as documentation of their scanning experience in their workplaces.	

Graduate Quality	Effective problem solving
Program Objective	Adapt their scanning techniques to suit the equipment, patient, and clinical scenario.
How learning outcomes are met	
Professional issues for Sonographers (RADY 5024) introduces approaches of delivering safe, patient-centred services. The communication skills essential in this process are stressed and further developed by students in their clinical work environments with support and guidance of their clinical supervisors. Ultrasound Physics and Instrumentation (RADY 5030) introduces students to factors to consider in selecting appropriate equipment and adjusting the scanning approach to individual patient requirements. These skills are further built upon in Breast Sonography (RADY 5002) and Mammography (RADY 5003).	

Graduate Quality	Work alone and in teams
Program Objective	Work effectively both individually and with other health professionals
How learning outcomes are met	
Professional Issues for Sonographer (RADY 5024) requires students to work in collaboration with each other via online discussion forums for the duration of the course. Students are further asked to complete self-evaluations of their performance against the set learning objectives encouraging them to build their expertise in considering their individual abilities, as well as their capability for working in team environments. Ultrasound Physics and Instrumentation (RADY 5030) requires students to work in groups and divide the assignment workload between them. They are then individually responsible for completing their aspect of the task and presenting it back to the group. Breast Sonography (RADY 5002) requires students to complete compulsory scanning experience during which they develop their ability to work individually as well as in collaboration with the wide range of health professionals which make up the health care team of a breast imaging patient.	

Graduate Quality	Ethical action
Program Objective	Demonstrate an understanding of the moral and ethical considerations involved in breast ultrasound.
How learning outcomes are met	
Given the highly sensitive nature of breast imaging, the moral and ethical considerations of the profession feature heavily within Breast Sonography (RADY 5002) and Mammography (RADY 5003) following on their introduction in Professional Issues for Sonographers (RADY 5024). The clinical placement environment further requires the students to develop and display these skills.	

Graduate Quality	Communicate effectively
Program Objective	Communicate effectively with patients and other health professionals
How learning outcomes are met	
Given the intimate nature of breast imaging, effective communication is paramount to delivering ethical, patient centred care. These skills are developed across all courses within the program where students are required to communicate with each other and their lecturers. The clinical placement further teaches students the skills of effective communication with their patients, colleagues and other health professionals.	

Graduate Quality	International Perspective
Program Objective	Recognise intercultural issues relevant to breast imaging and show awareness of international standards and practices in mammography and breast ultrasound.
How learning outcomes are met	
Cultural sensitivity is taught within Professional issues for Sonographers (RADY 5024). Students are exposed to patients in their placement across a multicultural demographic and required to display an understanding of cultural and international perspectives in health in order to be an effective health professional.	

4 Program design

ICBR is an 18-unit program which takes at least one year to complete given that it is only available part-time. The part-time nature of the program is designed to compliment a student cohort who are undertaking traineeships during the day and often work full-time in conjunction with their studies.

All course work is delivered and completed online in an external environment aside from a compulsory five-day workshop held at the UniSA City East Campus delivered within the Mammography (RADY 5003) course. This workshop is run by the BreastScreen clinic located within the Bonython Jubilee building and provides students with the requirements that are outlined by the Australian Institute of Radiography for the Certificate of Clinical Proficiency in Mammography.

The Graduate Certificate in Breast Imaging is made up of four 4.5-unit courses. There are two courses in common with the Graduate Diploma in Medical Sonography (IGSO), one course offered as an elective in the Master of Medical Sonography (IMSO), and a final course which is unique to the ICBR (Table 4).

Table 4: Course schedule

	ICBR	ICBRF*	IGSO	IGSOF*	IMSO	IMSOF*
Ultrasound Physics and instrumentation RADY 5030						
Professional Issues for Sonographers RADY 5024						
Breast Sonography RADY 5002						
Mammography RADY 5003						

* Full fee-paying versions of program.

The students are required to obtain their own traineeship with an ASAR accredited supervisor. Students fulfill the scanning requirements associated with Breast Sonography RADY 5002. Some students require extra time to complete these requirements, however, they must be fulfilled within 6 months of completion of the theoretical portion of the course.

Ultrasound Physics and Instrumentation (RADY 5030) and Professional Issues for Sonographers (RADY 5024) are delivered twice a year. Breast Sonography (RADY 5002) is timetabled in SP2 and Mammography (RADY 5003) in SP5.

The online flexible delivery meets the needs of not only the working student, but also those in the rural and remote settings. Students develop as self -directed learners which prepares them for life-long learning and professional development. The online learning is supported with online resources such as zoom classrooms, discussion boards, and pre-recorded lectures to engage the students.

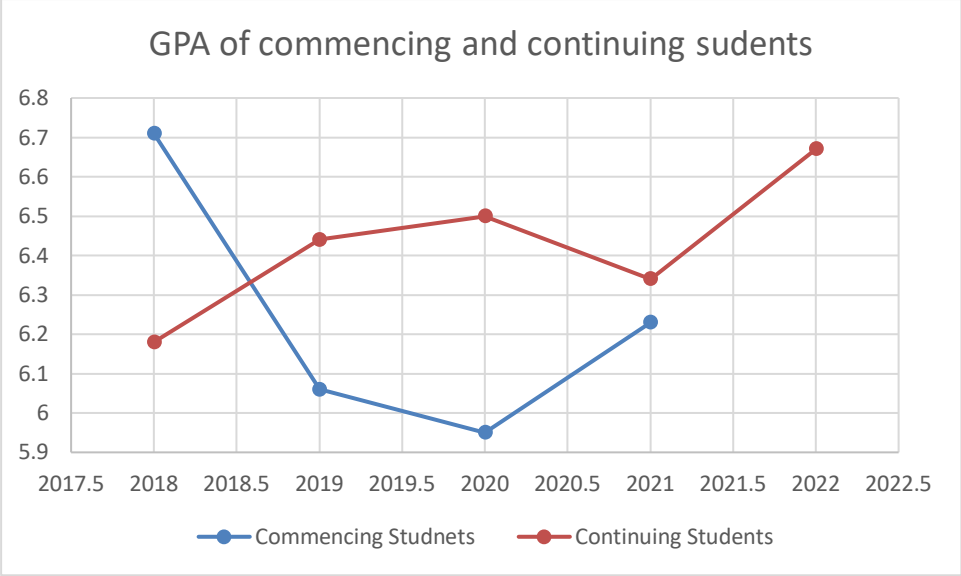
5 Teaching and learning and assessment arrangements

Development of the knowledge and skills necessary to be an effective breast sonographer is scaffolded across the four courses with introductory concepts presented in Ultrasound Physics and Instrumentation (RADY 5030) and Professional Issues for Sonographers (RADY 5024). These concepts are then built upon with a breast specific focus within Breast Sonography (RADY 5002) and Mammography (RADY 5003).

The course objectives for each course have been developed to align with both UniSA's core capabilities and Graduate Qualities as well as achieving the skill development outcomes required for professional accreditation.

6 Achievement of student learning outcomes

Students within the program perform at a high academic level and achieve high grades. Admission requirements include a bachelor's degree or higher in a recognised relevant Allied health degree. International students must meet the English language requirement of an IELTS of 7 across all bands, or equivalent. These requirements set students up for success within the program. The GPA of commencing and continuing students is consistently above 6.



7 Student and stakeholder feedback

Overall course satisfaction scores are high (> 80%) and above the university average (Table 5)

Table 5: Course satisfaction GES

	2018	2019	2020	2021
Commencing students	100%	100%	100%	91%
Continuing Students	100%	86%	100%	100%
University Mean	51.7%	52.9%	53.7%	51.7%

Industry feedback is sought at the biannual meetings of the Medical Sonography Postgraduate Program Advisory Committee. A yearly monitoring report is submitted to the accreditation body, ASAR, addressing program enrolments, completions, amendments, and any other relevant feedback. The staff within medical sonography who deliver courses within ICRB maintain a close working relationship with many external stakeholders any many hold part time clinical roles within sonographic practices.

My Course Experience (MCE) course and teacher items indicate strong satisfaction (>85%) with courses and teachers (Table 6)

Table 6: Student satisfaction with courses and teachers

My Course Experience Course Item	2018	2019	2020	2021
I have a clear idea of what is expected of me in this course	85%	91%	89%	83%
I have received feedback that is constructive and helpful	96%	100%	100%	93%
The assessment items assisted my learning in this course	93%	86%	100%	100%
The learnonline course site resources were of a high quality	93%	95%	100%	93%
Overall, I was satisfied with the quality of this course	100%	91%	100%	93%
My Course Experience Teacher Item				
The staff member helped me to understand key concepts of the course	90%	94%	95%	92%
The staff member helped to make the course interesting	90%	94%	95%	96%
The staff member supported my learning	100%	100%	100%	92%
Overall, I was satisfied with the performance of the staff member	100%	100%	100%	100%

8 Program management and coordination

The program teaching team meet once a month and hold a full day planning day at the beginning of each year. During these meetings course delivery, assessment timing and other programmatic issues are discussed and resolved. Course coordinators are selected based on their area of expertise and background.

All academic staff are accredited sonographers with ASAR. The TEQSA standards state that teaching academics should hold a higher qualification than that of the students they teach, and there is sufficient depth and qualifications within the sonography team to meet that expectation.

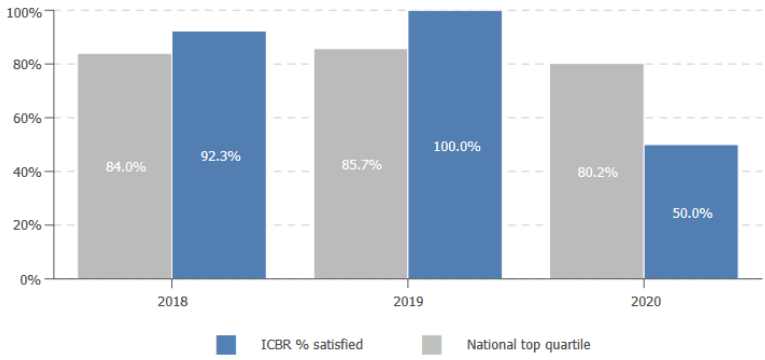
A Clinical supervisor handbook is updated and distributed annually and an external learnonline page is available for supervisors and future students. A supervisor information session is also held twice a year via zoom.

9 Overall performance of the program against national and international benchmarks

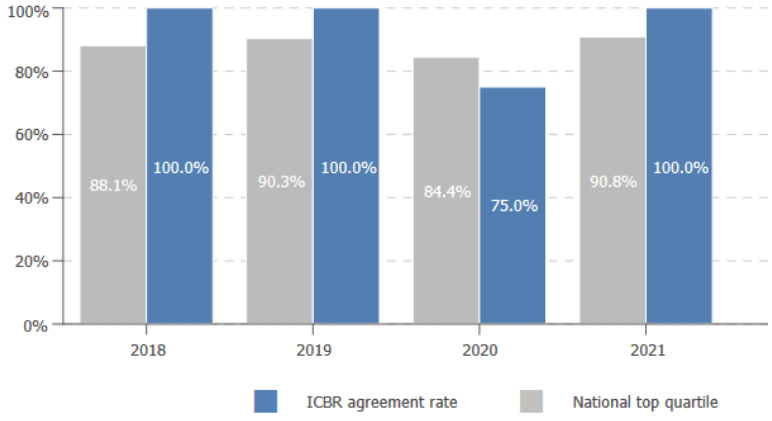
Benchmarking against similar programs is not possible as ICBR is the only program of its kind in Australia

When benchmarked against the study area of Health Services and Support, ICBR has been above the national average for 2018, 2019 and 2020 for learning resources, skill development, student support, and teacher quality.

The overall quality of Education Experience was also above the National top quartile for 2018 and 2019, dropping slightly below in 2020.



However, the Overall Satisfaction scores have received 100% and above the National Top Quartile for each year except 2020.



10 Areas of improvement and how those improvements will be implemented

Summary of proposed actions	Implementation
Streamline entry requirements	The ICBR program does not include an admission requirement to provide evidence of a training position. In line with the recently changed entry requirements for IGSO and IMSO and given that two courses within IGSO and three within IMSO are common to ICBR, it would be prudent and consistent to have these the same.
Removal of F code programs	Enrolments in the F codes have been consistently low. Stakeholder feedback is also being sought re removal of medical sonography programs with F codes.

11 Sign off

Program Director		
Name:	**Signed:**	**Date**:
Dean of Programs		
Name:	**Signed:**	**Date:**
Executive Dean		
Name:	**Signed:**	**Date**: