



ISRRT
INTERNATIONAL
SOCIETY OF
RADIOGRAPHERS
& RADIOLOGICAL
TECHNOLOGISTS

"Radiography Education Framework July 2014".



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July 2014

The first draft of this document was distributed to the ISRRT Board and was revised based on the feedback received from the ISRRT Board members. This second draft of the document was further developed by the Director of Education in collaboration with the four education coordinators following feedback from the Sub Committee and Board of the ISRRT. Through extensive consultation it was decided that Stage One of this project would be the development of a framework against which education programs could benchmark their own specific program. The framework has been designed to include criteria for benchmarking or assessing whether an individual program is consistent with the ISRRT framework and criteria.

This document is designed for diagnostic radiography education with the intent that later similar documents be developed for the other medical imaging and medical radiations programs represented by ISRRT. This framework document can be used for undergraduate entry programs but can also be used for graduate entry programs where the student has undergone previous education at the undergraduate level. The key is whether the combination of both programs meet the national requirements for entry to practice . Information about prerequisite education to allow for entry into the graduate program should constitute part of this document (see section 1.8)

It should be noted that although this is a framework document and not an accreditation document, it has been designed in such a way that it can be readily translated into an accreditation template at a future time.

NOTE: This document will be accompanied by proforma documents to assist the benchmarking process

Main Source material used in the development of this draft framework document were the Accrediting systems of Canada, UK, USA, and Australia, the previous Educational Guidelines published by ISRRT in 2006 and EFRS. 2012. *European Qualification Framework (6) Benchmark*. European Federation of Radiographic Societies

Australia Australian Health Practitioner Regulation Agency (AHPRA) <http://www.ahpra.gov.au/>

Canada Canadian Medical Association, Conjoint Accreditation Services(CMA)

<http://www.cma.ca/learning/conjointaccreditation>

UK Health and Care Professions Council (hpc) <http://www.hpc-uk.org/>

USA Joint Review Committee on Education in Radiologic Technology (JRCERT) <http://www.jrcert.org/programs-faculty/jrcert-standards/>

Europe EFRS. 2012. *European Qualification Framework (6) Benchmark* [Online]. European Federation of Radiographic Societies
<http://www.efrs.eu/news/efrs/news-detail-efrs/?newsId=b3eb90cc-c4ba-4784-9374-b96537eaf2d0>.

Medical radiation practice Board of Australia (MRPBA)

<http://www.medicalradiationpracticeboard.gov.au/Accreditation/Application-information.aspx>

Other source materials were also included and appended in the references .

This document incorporates stakeholder feedback and streamlines the framework while also making them inclusive and relevant to radiography practice in various jurisdictions. As this document is being developed through the ISRRT, an organisation of professional associations, the focus is on the role of the radiography profession and how education programs prepare students for the workplace.

The document is divided the following criteria:

DOMAINS: Sets of characteristics identifying the key elements of the framework required by an educational institution

STANDARDS: The accepted levels against which educational programs are measured

July 2014

CATEGORIES: The divisions of the standards needed for measurement in order to assess the standards

EVIDENCE/PERFORMANCE INDICATORS: The method by which an institution can benchmark their performance against the ISRRT standards

SEVEN DOMAINS

- 1. The Profession**
- 2. The Program**
- 3. The Education**
- 4. The Student**
- 5. The Resources**
- 6. Work Integrated Learning/Clinical Placements**
- 7. Governance /Quality Assurance**

THE PROFESSION

1. The program enables students to attain the competencies specified in their respective country. The profession provides the key input and feedback to provide currency and relevance.

STANDARD	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
1 THE PROFESSION		Academic	Professional
<p>1.1. The threshold for entry to practice must be substantially similar to a baccalaureate degree in scope and breadth</p> <p>1.2. The learning outcomes must meet the standards required by the registering, regulatory or professional body</p> <p>1.3. The program's curriculum must prepare graduates to meet all practice requirements within the constituency</p> <p>1.4. The curriculum must reflect appropriate integration of theory and practise. .</p> <p>1.5. The program must show evidence of compliance with health, safety and radiation requirements and policies in place in the constituency</p>	<p>Compatibilities/competencies required for entry to practice</p>	<ul style="list-style-type: none"> • Program objectives/outcomes cross referenced to national profile/competencies /capabilities • Course outlines and learning objectives are available which align with national profile/competencies /capabilities • Clinical handbooks are available to support clinical learning • Program objectives and course outlines include reference to health, safety and radiation requirements and policies in place in the 	<ul style="list-style-type: none"> • Profile/scope of practice/ national competencies /capabilities is in place <i>NOTE: It is an expectation of these framework that such a document exists in some form so that it is used a benchmarking document for the program</i> • Clinical requirements cross referenced to clinical opportunities available in the region (e.g. advanced technological equipment)

		constituency	
<p>1.6.The program must demonstrate effective collaboration with the clinical environment</p> <p>1.7 The program must ensure effective input from all external stakeholders</p>	Communication	<ul style="list-style-type: none"> • Student surveys • Staff meeting minutes • Curriculum development meetings • Evidence of key stakeholder involvement in curriculum development and enhancement 	<ul style="list-style-type: none"> • Graduate satisfaction surveys • Minutes of advisory councils
<p>1.8. Admission requirements must take account of the academic and clinical demands of the program in order to ensure that applicants demonstrate appropriate skills and values, and are best equipped to succeed.</p>	Academic Requirements	<ul style="list-style-type: none"> • Evidence of satisfactory requirements for the host academic institution Academic success requirements of previous education if the program is graduate entry • Evidence of a defined admissions process that includes selection criteria 	<ul style="list-style-type: none"> • Clear description of the radiography position so applicant can assess suitability of program

2. THE PROGRAM

The program provides education that will graduate a competent professional

STANDARD	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
2 THE PROGRAM	The curriculum	Academic	Professional
2.1 The program must prepare graduates for practice within their constituency 2.2 Core values, professional and ethical conduct must be integral to all aspects of the curriculum 2.3 There must be continuous alignment of content, learning outcomes and assessment 2.4 The integration of theory and practice must be integral and evident to all aspects of the program		<ul style="list-style-type: none"> • Curriculum Analysis document • Cross referencing of learning outcomes to assessment items • Evidence of progressive level of learning from novice to expert • Program documentation includes a plan of activities across the duration of the program that indicates the timing and relationship between clinical and academic elements. 	<ul style="list-style-type: none"> • Mission, Vision and Core Values of profession
2.5 Where possible , an interprofessional approach to clinical activities should be supported		<ul style="list-style-type: none"> • Students are provided with opportunities to collaborate and learn from with other health practitioners 	Opportunities for clinical inter professional participation (e.g. Multi-disciplinary meetings)

3. THE EDUCATION:

The program demonstrates sound pedagogy
 The didactic and clinical learning is integrated
 Formative and summative feedback is provided throughout the program
 There is a research component within the curriculum

FRAMEWORK	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
3.EDUCATION			
3.1. The curriculum must demonstrate a range of teaching and learning approaches 3.2 The program must show evidence and support of teaching and learning leadership within the teaching staff 3.3 The delivery of the curriculum must support reflective thinking 3.5 Curricular design must incorporate a student learning centred approach, promoting autonomous thought and activity 3.6 Integration of theory and clinical practice must be evident and integral to all aspects of delivery	Instruction	<ul style="list-style-type: none"> • Program documentation should outline a defined teaching and learning strategy • Course/subject descriptions demonstrating a variety of learning and teaching styles used to present the content, as outlined within the subject study guides. • Relevance of staff/staff evaluations • Examples of 	

		activities and assessments	
3.7 There must be evidence of an appropriate mix of formative and summative assessments, which are continuously aligned to learning outcomes	Assessment	<ul style="list-style-type: none"> Evidence of formative and summative assessment of theory and applied knowledge and skills development 	
3.8 Curriculum design must support attitudes and attributes conducive to health professional activities	Graduate Attributes	<ul style="list-style-type: none"> Evidence of inclusion of graduate attributes of the educational institution within the curriculum 	
3.9 Curriculum design must support the students' research knowledge and skills 3.10 Evidence-based practice must be included throughout the Curriculum	Research	<ul style="list-style-type: none"> Evidence of inclusion of evidence -based practice within the curriculum 	

4. THE STUDENT

The program supports the students' throughout their program and protects their rights

FRAMEWORK	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
4. THE STUDENT			
4.1 There must be accurate information about the program published and/or supplied	Program information	<ul style="list-style-type: none"> • Accurate program information and advertisements are available in a timely manner • Program handbooks are available for students and are consistent with published program information 	
4.2 Admissions procedures must be accurately and clearly described and consistently administered. 4.3 Admissions procedures must be free of discrimination and demonstrate acknowledgement of equality and diversity	Enrolment practices	<ul style="list-style-type: none"> • Program admissions procedures and policies are available 	
4.4 All educational facilities and learning environments must be safe 4.5 Students must be adequately prepared for the clinical workplace prior to the clinical placements 4.6 Students must be informed of risks associated with use of medical radiation and aware of measure to reduce harm such as ALARA	Work/Study Environment	<ul style="list-style-type: none"> • Evidence of safety policies, procedures and incident reports • Pre-clinical information demonstrates safety and risk reduction 	<ul style="list-style-type: none"> • Evidence of safety features/policies in Clinical placement sites. • Evidence of policies and procedures for Students in clinical environment
4.7 There must be evidence of support for the	Non Academic	Counselling, referral	

well-being of the student 4.8 There must be complaints and appeals mechanism s for students in place.	Support mechanisms	services	
4.9 Advancement and termination policies must be in place and clearly understood by the student	Advancement practices	<ul style="list-style-type: none"> Evidence of policies and practices regarding advancement or termination 	

5. THE RESOURCES

The program's resources are adequate to support student learning to the level required to meet the program objectives

Program to provide evidence that shows that there are adequate resources (physical and human) in both the didactic and clinical setting to support program objectives

FRAMEWORK	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
5..RESOURCES			
5.1 There must be sufficient adequately educated teaching staff to teach administer the program effectively 5.2 There must be sufficient staff with specific expert knowledge and skill in medical radiation sciences and associated sciences	Academic Staffing	<ul style="list-style-type: none"> Listing of staff and evidence of suitability for teaching Evidence of theory and clinical knowledge, professional and academic achievements of teaching staff Evidence of sufficient staff for 	<p>Key clinical personnel involved with teaching in academic or clinical environment</p> <p>Evidence of support for required activities in clinical environment</p>

		supervision in clinical environment and laboratory settings	
5.3 There must be sufficient administrative staff to run the non-academic parts of the program effectively	Non-academic staffing	<ul style="list-style-type: none"> Organizational chart indicating placement of program and staff in the managerial and/or academic structure Evidence of sufficient support personnel to administer successful program 	
5.4 Infrastructure and other physical resources must be sufficient to support the learning outcomes of the program 5.5 There must be effective support for all modes of delivery, including the use of electronic learning management systems 5.6 Library resources on site and electronic must be sufficient to support all aspects of the program	Teaching resources	<ul style="list-style-type: none"> Sufficient classroom, library, IT resources, laboratory (in house or in the clinical environment) 	

6. WORK INTEGRATED LEARNING/CLINICAL PLACEMENTS

The program provides an integrated learning experience for students

FRAMEWORK	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
6. WORK INTEGRATED LEARNING:CLINICAL			
<p>6.1 Clinical placements must be incorporated into the curriculum</p> <p>6.2 The length and variety (volume and range) of clinical placements must be sufficient to meet the specific learning outcomes of the program</p> <p>6.3 Clinical placement sites must have the human and physical resources (equipment etc.) required to meet the program outcomes</p> <p>6.4 Each site should have a clinical agreement with the program regarding roles and responsibilities of each constituent of the program</p> <p>6.5 Each site must have policies and procedures in place to ensure the safety and support of the student during their clinical placement</p> <p>6.6 Communication between academic and clinical education centres must be effective, consistent and ongoing</p>	Didactic/ Clinical Continuum	<ul style="list-style-type: none"> • Minutes of program management meetings that include clinical stakeholder input • Clinical handbook • Evidence of assessment items that transcend settings e.g. Objective Structured Clinical Examination (OSCE) /practical evaluation tools • Description of criteria for each clinical placement (<ul style="list-style-type: none"> • Evidence of agreement between educational and clinical environment to support program and supply appropriate clinical experience • Data collection mechanism in place (hardcopy or electronic) for ongoing assessment of student performance
<p>6.7 Students must be suitably prepared for the clinical learning experience before entering the clinical placement</p> <p>6.8 Students must be made aware of all aspects of professional conduct and safety requirements</p>	Clinical Experience	<ul style="list-style-type: none"> • Evidence of Clinical rotations and accessibility to sufficient variety of clinical experience (based on need of country) 	<ul style="list-style-type: none"> • Evidence of the experiences that can be provided by the clinical sites • Feedback surveys
6.9 Assessments must reflect experience and demonstrate achievement of all learning		<ul style="list-style-type: none"> • Evidence of clinical teacher/preceptor 	Evidence of support for teaching/preceptoring in

outcomes. 6.10 Clinical personnel must be sufficiently prepared for the supervision and assessment of students		support by the program (e.g. professional development opportunities)	clinical department
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7. GOVERNANCE/QUALITY ASSURANCE

The program is situated within the institution's strategic business framework

The program's evaluation process results in continuous quality improvement

FRAMEWORK	CATEGORIES	EVIDENCE/KEY PERFORMANCE INDICATORS	
7. GOVERNANCE/QUALITY ASSURANCE			
7.1 The basis and sustainability of the program must be recognised with the institution's business plan taking into account particular national workforce demands 7.2 Academic and corporate governance of the program must meet the requirements of the institution or government as appropriate 7.3 The program must demonstrate sound financial viability and sustainability	Governance	Business plan Annual report	
7.4 The program must ensure their responsibilities to the student are accurately and fairly administered according to the policies and procedures of the institution 7.5 Admissions procedures and criteria must be applied fairly and rigorously	Policies and procedures	<ul style="list-style-type: none"> Copies of relevant policies and procedures 	
7.6 The program must demonstrate sound academic quality and integrity 7.7 There must be an ongoing mechanism of	Quality Assurance	<ul style="list-style-type: none"> Evidence of a ongoing quality improvement 	<ul style="list-style-type: none"> Evidence of ongoing assessment of

<p>monitoring and appraisal of all aspects of the program</p> <p>7.8 There must be sufficient opportunities for staff development and research skills development for staff</p> <p>7.9 Effective performance feedback and appraisal systems for staff and students must be consistently administered and appropriately responded to</p>		<p>program such a Continuous Quality Improvement (CQI) plan Evidence of evidence- based feedback and improvement within a timely manner</p> <ul style="list-style-type: none"> • Student feedback and evaluation processes 	<p>clinical sites</p>
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REFERENCES

- AIR. 2012. *Accreditation of professional entry programs in Medical Imaging and Radiation Therapy* [Online]. Available: http://www.air.asn.au/cms_files/05_Accreditation/Accreditation_ProEntry_Guidelines_new.pdf [Accessed 15/12/12].
- BOELEN C & HECK, J. 1995. *Defining and measuring the social accountability of medical schools* [Online]. Geneva: WHO. Available: http://whqlibdoc.who.int/1995/WHO_HRH_95.7_fre.pdf.
- BOELEN C & WOOLLARD B 2009. Social accountability and accreditation: a new frontier for educational institutions. *Medical Education*, 43, 887-894.
- CONJOINT ACCREDITATION SERVICES 2007. Requirements for accreditation. In: Canadian Medical Association . (ed.). Ottawa, Canada: CMA.
- EATON, J. S. 2010. Accreditation and the Federal Future of Higher Education. *Academe*, 96, 21-25.
- EDUCATION OF HEALTH PROFESSIONALS FOR THE 21ST CENTURY; A GLOBAL INDEPENDENT COMMISSION 2010. Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet*, 376, 1923-1958.
- EFRS. 2012. *European Qualification Framework (6) Benchmark* [Online]. European Federation of Radiographic Societies. Available: <http://www.efrs.eu/news/efrs/news-detail-efrs/?newsId=b3eb90cc-c4ba-4784-9374-b96537eaf2d0>.
- HARMAN G & MEEK V L 2000. Repositioning Quality Assurance and Accreditation in Australian Higher Education. In: DEPARTMENT OF EDUCATION TRAINING AND YOUTH AFFAIRS (ed.). University of New England.
- HCPC. 2012. *Approval and Monitoring processes* [Online]. Health and Care Professions Council. Available: <http://www.hpc-uk.org/education/processes/>.

ISRRT. 2006. *Guidelines for the Education of Entry Level professional Practice in Medical Radiation Sciences*

[Online]. Available: http://www.isrrt.org/isrrt/Education_Standards.asp [Accessed 13/01/13].

JRCERT. 2012. *Joint Review Committee on Education in Radiologic Technology. Accreditation process* [Online]. JRCERT. Available: <http://www.jrcert.org/accreditation-process/>.

LEIST JAMES C, GILMAN STUART C, CULLEN ROBERT & SKLAR JACK 2004. Using Baldrige Criteria to meet or Exceed Accreditation Council for Continuing Medical Education Standards. *The Journal of Continuing Education in the Health Professions*, 24, 57-63.

PARKES, J. & JOLLY, B. 2008. The Accreditation and Assessment Pack. Australasian Sonographer Accreditation Registry(unpublished).

ROONEY, A. L. & VAN OSTENBURG, P. R. 1999. Licensure, Accreditation and Certification: Approches to Health Services Quality. *Quality Assurance Project*. Bethesda USA.

VAN DEN BURGHE, W. 1997. Application of ISO 9000 Standards in Education and Training. Interpretation and Guidelines in a European Perspective. *European Journal Vocational Training*, 15, 20-27.

WFOT 2002. Minimum Standards for the Education of Occupational Therapists. Australia: *World Federation of Occupational Therapists*. <http://www.wfot.org/>