Criteria for evaluation of Academic programs in Radiography

Bachelor of Science Honours in Radiography

Compiled by the subject expert panel on Radiography, Ceylon Medical College Council

CEYLON MEDICAL COLLEGE COUNCIL

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General Evaluation

1. The qualification awarded by the degree program leading to proficiency as a radiographer

1.1 Bachelor of Science Honours in Radiography

*Any other name/ title should be considered on case by case basis by the expert panel on Radiography prior to approval.

1.2 History of the programme.

e.g.: Year of commencement, number of batches already graduated, if the programme is already accredited by the local authority / council, etc.

1.3 Duration and credit structure

Four (04) years and minimum of 120 credits

2. Policies and procedures promoting accountability and fair practice

2.1 Admission criteria

Minimum 03 simple passes in GCE A/L, in Chemistry, Physics,
AND
Biology or Mathematics in one sitting
OR
an equivalent qualification to above

2.2 Course fees, stipends form students

This information is required including the methods of communication to students e.g. website, prospectus etc.

2.3 Graduation requirements

The criteria for graduation are to be stated.

2.4 Language of instruction

Language of instruction to be stated.

3. Resource availability and programme sustainability

3.1 Physical facilities

Available physical resources e.g.: library, laboratories including skills labs, classrooms/lecture halls, tutorial rooms, Audio-visual facilities, IT facilities, to be identified.
Clinical training facilities are to be stated under educational programme below.

Lecture halls: Capacity and number will be considered for number of students enrolled for batch and number of intakes per year.
Optional: instructional facilities etc.

3.2 Principal managerial and administrative staff

The strength of the support staff is to be mentioned.

3.3 Credentials of the academic staff

Academic qualifications and qualifications for teaching of each member should be defined:
e.g. BSc in relevant subject areas
MSc in relevant subject areas
Mphil in relevant subject areas
PhD in relevant subject areas
CTHE (certificate of teaching in higher education)

3.4 Teacher: Student ratio

e.g to be kept at 1:10 (Permanent teaching staff carder to be included)

Mention details about other temporary teaching staff (e.g. part time teaching staff; visiting lecturer/s)

3.5 Certificates/ transcripts

Standard format should be followed. Formats of the University of Peradeniya and KDU or any other recognized university to be followed as examples.

4. Annual programme completion rate of students

Educational Programme

1. Graduate profile

The programme should have a clear graduate profile covering the below aspects.

Areas expected to be covered: Theoretical (Subject)knowledge, Practical skills (Scope of practice), Communication skills, Problem solving skills, Leadership & Teamwork, ICT skills, networking & Social skills, Ethics & Professionalism, Research & Evidence-based practice, Attitudes and Continuous professional development.

2. Programme Learning outcomes (PLOs)

The programme should have PLOs which would lead to developing an undergraduate of the above profile

3. Curriculum

The curriculum should be structured and documented with a clear general organization of each course /module. Individual differences are allowed. However, the curriculum should meet the basic academic standards stipulated below:

3.1 Specified intended learning outcomes (ILO): ILOs of Courses/Modules should be aligned to PLOs/graduate profile
3.2 Teaching Learning Activities (TLA) for each course/ module should be identified
3.3 Content areas/ Subjects for each course module should be specified
3.4 Programme: the method used to calculate credit hours for individual (subjects/course or module) components of the programme; list all the credit hours allocated.
3.5 The clinical training component is stated below (refer to item 4**)**

Table 1 shows the summary of the credit structure recognized by the expert panel on Radiography for the recognition of academic programs offered by universities/institutions locally and internationally.

Table 1: BSc (Hons) in Radiography content areas

Subject areas	Number of credits (Minimum)
Anatomy, Physiology	4-6
Biochemistry	2
Psychology	2
Pathology	2-3
Physics, Electronics	2-4
Mathematics	2
Radiation physics	2-3
Radiobiology	2
Radiation protection	4
Image processing, Digital imaging, Medical Imaging Informatics	4
Medical Imaging Equipment	6
Ethics, Professionalism & Communication	2-4
Care of patient	4-6
Pharmacology for Medical Imaging	1-2
Radiographic Anatomy and pathology	6-8
General Radiography techniques	3
Contrast examinations & fluoroscopy	2
Dental Imaging	2
Mammography	2
Advanced imaging techniques (Computed Tomography (CT), Magnetic Resonance Imaging (MRI), Nuclear Medicine (NM))	9-15
Paediatric Imaging	2

Ancillary Imaging eg- Mobile, Theatre Radiography, DEXA, Veterinary, forensic etc.	4
Quality control and quality assurance	4
Maintenance of equipment,	2-6
Radiation Dosimetry and Applications	2
Research and statistics (theory)	5
Research project	8
Clinical practice covering essential components (refer clinical training below)	minimum 22
Total	**120**

The program may include Information technology (IT)/ English/ Administration, Management. The panel shall accept an average of 20% of flexibility in the content areas (given in table 1) from each subject provided that essential components recommended by the experts are covered in the program.

Minimum total credits for the program should be 120 credits.

4. Clinical training

4.1 Total hours of clinical training with credit calculation must be documented including the percentage of the total no of teaching and learning hours/ credits

The Panel identifies the minimum requirement of approximately 900 total clinical training hours.

4.2 Content areas in clinical training should be specified

The Panel identifies the following broad areas to be included in the curriculum as essential components: Plain Radiography, Mobile Radiography, Dental Radiography, Theatre, Mammography, Fluoroscopy and other Contrast Studies, MRI, CT, Nuclear Imaging and Paediatric Radiography.

4.3 Clinical training institutions

The capacity for training at each training unit should be identified in terms of equipment, bed strength, workload and trainer: trainee ratios. Any accreditation of such hospitals to be specifically mentioned**.**

5. Assuring equitable learning opportunities

Equitable learning opportunities for all students with sufficient variety of radiographic examinations. (e.g., mobile, surgical, trauma/ emergency) and quantity of procedures/ learning opportunities must be justified.
Panel recommends justification of the resources against the number of students; size of clinical groups. Student to instructor ratio for classroom based small group teaching to be identified.

6. Ethics, communication, and professionalism

Evidence that the programme provides opportunities for learning ethical aspects of practice, professionalism, communications skills, teamwork, leadership, IT skills and research to be stated.

7. Assessments

The overall assessment structure for the entire program and individual components should be documented. Details should be provided on methods of assessments, criteria for setting the pass marks, grade structure and the number of re-takes permitted. Such principles, methods and practices shall be clearly and constructively aligned with the intended educational outcome and instructional methods.

7.1 The panel identifies the following general criteria to be fulfilled in assessments:

A sufficiently wide range of assessment methods (MCQ, SEQ, viva, portfolio etc) in order to cover knowledge, skills and attitudes; open to scrutiny by external experts and devoid of conflict of interest; promote student learning and provide an appropriate balance of formative and summative assessments to guide both learning and decisions about academic progress.

7.2 The following specific criteria must also be fulfilled:

Institutional infrastructure and resources for fair assessments should be clearly documented. This includes administrative support for examinations e.g.; the availability of an examination unit with staff.

- The program should take steps to safeguard examination process and confidentiality e.g. examiner appointments, exam blueprinting, and scrutiny procedures should be clear

-Procedures to be followed in case of failures or referrals need to be identified.

Student support systems

Availability of student counseling, student progress review system with appropriate interventions. E.g. appraisals and availability of Fall-back options for students who do not complete the programme to be mentioned.

Health and safety measures

Health and safety measures for students, staff, patients and public adhered to by the programme and the institute should be stated. The radiography panel considers this as an essential criterion for training by example.

Therefore, the measures taken to ensure the following to be stated.

Institutional policies and procedures which promote health and safety relevant to the program:

1. **Radiation Safety:**

1.1 Radiation safety policy documents of the institute eg; pregnancy policy, application of ALARA principle

1.2 Radiation protection measures provided to students and staff e.g. dose monitoring, protective devices

1.3 Compliance with national/local radiation safety standards/laws with evidence. e.g. Radiation labs.

1.4 Steps taken to assure that radiation examinations are performed under supervision of a qualified radiographer

1.5 Procedures taken to monitor adherence to protocols for safe practice for radiation, magnetic and radiofrequency fields

1.6 Process of preparing the students for safe radiation / safe MRI (curriculum details to be provided including assessments).

2. **Infection Control Measures, -- Students education on proper hand hygiene, the use of barriers such as gloves and aprons, and the correct handling and disposal of contaminated materials.**

3. **Emergency Preparedness: Students training on emergency response procedures to handle unforeseen situations during radiographic procedures. This includes knowledge of emergency equipment locations, evacuation plans, prompt communication of emergencies to relevant personnel and CPR.**

4. **Workforce Safety: Policies are in place to safeguard the well-being of students and faculty members. This includes measures to prevent workplace hazards, ergonomics training to minimize musculoskeletal injuries, and guidelines on reporting incidents or accidents.**