Republic of the Philippines
OFFICE OF THE PRESIDENT
COMMISSION ON HIGHER EDUCATION

CHED MEMORANDUM ORDER (CMO)
NO. 06
Series of 2001

SUBJECT: POLICIES AND STANDARDS FOR RADIOLOGIC TECHNOLOGY EDUCATION

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In accordance with the pertinent provisions of Republic Act (RA) No. 7722, otherwise known as the "Higher Education Act", and for the purpose of rationalizing Radiologic Technology Education in the country with the end in view of keeping at pace with the demands of global competitiveness, the following policies and standards for Radiologic Technology Education are hereby adopted and promulgated by the Commission, thus:

Article I
MISSION STATEMENT

SECTION 1. The goal of Radiologic Technology Education is to provide the country with dynamic, competent, socially-conscious, and ethical Radiologic Technologists concerned with the application of State-of-the-Art scientific technique in medical imaging and therapy.

SECTION 2. Graduates of the course shall have:

2.1. Acquired and develop the knowledge of the various physical principles involved in diagnostic imaging and therapeutic application.

2.2. Developed awareness of the risks involved in the application of various radiant energies (e.g. x-rays) to humans for diagnostic, therapeutic or research purposes and ways of minimizing such risks.

2.3. Developed the skills of proper positioning of patients in the different procedures called for in any particular study employing the appropriate exposure factors to achieve desired results.

2.4. Acquired and develop knowledge, attitudes, values, and skills necessary to contribute to the overall social, mental, and physical health of the community and country.

2.5. Responded to the technological advancement in the field of Radiologic Sciences thru research and continuing education.

Article II
AUTHORIZATION

SECTION 1. Only schools, colleges, and universities authorized by the Commission on Higher Education(CHED) shall operate a Radiologic Technology Program.

SECTION 2. All curricular programs in Radiologic Technology must be submitted to the Commission on Higher Education (CHED) through the Higher Education Regional Office (HERO) for information.

SECTION 3.Representatives from the CHED, the Board of Radiologic Technology (BORT) of the Professional Regulation Commission (PRC), and the Technical Committee for Radiologic Technology Education shall conduct an ocular inspection of all facilities of institutions offering the program to assure that they conform with the policies and standards as specified therein.

SECTION 4. The policies and standards are herein prescribed for all higher education institutions (HEI) offering Radiologic Technology Program duly authorized/recognized by the Commission on Higher Education.

Article III
ADMINISTRATION

SECTION I. The higher education institution offering Radiologic Technology Education shall be administered by a full-time Dean/Chairman/Department Head with the following qualifications:

1.1. a Filipino citizen and of good moral character;

1.2. a Radiologic Technologist duly licensed by the Professional Regulation Commission or a Radiologist who is a fellow of the Philippine College of Radiology;

1.3. a teaching experience of at least five (5) years;

1.4. an administrative and clinical experience of at least two (2) years; and

1.5. a holder of at least a Master's degree in Science, Education or Administration.

SECTION 2. The general function and responsibility of the Dean of the College of Radiologic Technology is to assist the school in the implementation and attainment of instructional goals, community extension services, and in all matters affecting the general policies of the institution.

Article IV
FACULTY

SECTION 1. The faculty shall have at least one (1) year experience in clinical radiologic work and shall have the following academic preparation appropriate to their teaching assignment:

1.1. a Bachelor of Science in Radiologic Technology graduate and duly licensed by the Professional Regulation Commission; and

1.2. a holder of a Master's Degree in Science, Education or Administration.

SECTION 2. A Radiologist, a licensed medical practitioner, and a medical physicist may be invited to teach provided they teach their area of specialization.

SECTION 3. The faculty in a school offering Radiologic Technology Education shall be assigned academic ranks in accordance with their academic training and scholarship.

SECTION 4. At least sixty (60) percent of Radiologic Technology Education courses shall be taught by full-time faculty.

SECTION 5. A faculty development program shall be established for effective operation of the college and for the improvement or development of the profession. This program may be carried out through:

5.1. scholarship grants to deserving full-time permanent faculty members;

5.2. provision of incentives for study towards the Master's/ Doctorate degree by giving tuition fee discounts if the institution offers the graduate program or through other forms of assistance; and;

5.3 subsidizing attendance/participation in seminars, conferences, and other training programs.

Article V
CURRICULUM

SECTION 1. Higher education institutions offering Radiologic Technology Education may exercise flexibility in their curricular offering. However, Radiologic Technology subjects as prescribed by the prototype curriculum shall be implemented.

SECTION 2. The minimum number of academic units required for completion of a degree in Bachelor of Science in Radiologic Technology is one hundred ninety three (193) units. See Annex A for prototype curriculum and Annex B for course descriptions.

Article VI
INSTRUCTIONAL STANDARDS

SECTION 1. The institution shall maintain a high standard of instruction utilizing appropriate updated syllabi and instructional materials/procedures which contribute to sound Radiologic Technology Education. A system of supervision shall be instituted and implemented for the purpose of evaluating teaching competence.

SECTION 2. The institution shall have competent instructional staff of good moral character classified into various academic ranks.

SECTION 3. The higher education institution shall adopt any textbook of recent edition which reflects the current trends and advancements in the field of Radiologic Technology and which does not violate Philippine laws. Adopted basic textbooks may be changed once in every three (3) years.

SECTION 4. The institution shall provide the students with the necessary textbooks and instructional materials, one copy of each of the basic textbook for every twenty five (25) students.

SECTION 5. The ratio of faculty to students in a technical laboratory shall be a maximum of one is to forty (1:40).

SECTION 6. Evaluation must be an integral part of the teaching-learning process and the students informed of the results. A variety of tests and measurements shall be utilized.

SECTION 7. The Internship Training Program where the students develop professional Radiologic Technology skills through a systematic application of scientific knowledge in diagnostic imaging and therapy in hospitals and clinics, shall consider the following:

7.1. There shall be a close correlation of theoretical knowledge to the internship training program.

7.2. The internship training program shall be designed to meet the objectives of the Radiologic Technology curriculum.

7.3. In determining the adequacy and effectivity of the training program, the following factors shall be considered;

7.3.1 Background knowledge, skills, values, and attitude of students in the various disciplines of the Radiologic Technology curriculum.

7.3.2. Hospitals, clinics, and health agencies must be licensed by the Department of Health to operate a radiological facility.

7.3.3. A fixed ratio of 4:1 Intern to Radiologic Technologist and a minimum number of training hours shall be established by the school and affiliated hospital, clinic or health agency.

7.4. There shall be a systematic and coordinated working relationship between the Dean of the higher education institution and the head of the affiliated hospital, clinic or health agency.

SECTION 8. The institution must provide the necessary instructional materials, such as anatomy models, teaching slides, and charts including information technology (IT) based resources for effective teaching-learning process.

Article VII
LIBRARY

SECTION 1. Higher education institutions offering Radiologic Technology Education shall have library resources relevant to general education and Radiologic Technology program.

SECTION 2. There shall be at least three(3) titles of books of recent edition for every professional subject

SECTION 3. There shall be a subscription to radiological journals, periodicals, and relevant scientific publications.

SECTION 4. The library shall provide information technology (IT) resources.

SECTION 5. The library shall provide adequate reading space, lighting, and ventilation in proportion to the student population.

SECTION 6. A librarian duly licensed by the Professional Regulation Commission shall be employed.

Article VIII
RESEARCH

SECTION 1. The higher education institution shall encourage and support research work in the field of Radiologic Sciences and shall have competent and qualified faculty capable of handling research.

SECTION 2. Faculty members assigned to do research activities shall be credited with an equivalent teaching load for the duration of the research study.

SECTION 3. The institution shall encourage and support research activities among its students and faculty for the furtherance of the Radiologic Technology profession.

SECTION 4. Students should conduct research work as a requirement for graduation.

Article IX
PROGRAM ACCREDITATION

SECTION 1. Higher education institutions offering Radiologic Technology program should actively pursue the goal of excellence through quality education. One means of measuring the quality of education is through voluntary accreditation by appropriate accrediting agency.

Article X
LABORATORY FACILITIES

SECTION 1. The curricular program offered by the higher education institution is the main determining factor in the design and the construction of its physical facilities.

SECTION 2. The higher education institution shall provide lecture and laboratory rooms adequate for instructional and experimental activities.

2.1. There shall be adequate equipment, facilities, and material for a particular laboratory science course it offers.

2.2. Adequate space shall be provided to accommodate the largest class using the laboratory.

2.3. Laboratory activities shall be conducted in a laboratory room designed purposely for a particular science or professional course.

2.4. The radiological facility shall comply with the basic standards as well as safety requirements prescribed by the Radiation Health Service (RHS) of the Department of Health (DOH).

2.5 The laboratory shall:

2.5.1 Be well lighted, ventilated, and provided with safety devices and first aid facilities; and

2.5.2. Have adequate working and free space for the convenience of the students.

2.6. Separate laboratory for the physical, biological, and Radiologic Sciences shall be provided.

2.7. Facilities, equipment, and supplies in the science laboratory shall conform with the standards and requirements of the general sciences laboratory.

2.8. Experiment performed in a particular laboratory course shall:

2.8.1. be adequate in scope to cover the concepts and theories to be taught and learned;

2.8.2. emphasize investigation and inquiry; and

2.8.3. be so designed as to be undertaken by the students with a minimum of instruction from the teacher.

SECTION 3. Radiologic Technology laboratory shall be provided and equipped with the following:

3.1. Functioning x-ray machine of at least 100 milliamperes
3.2. X-ray table with grid
3.3. Beam restricting devices
3.4. Processing tanks
3.5. Developer and fixer solutions
3.6. Thermometer
3.7. Darkroom safe light
3.8. Darkroom timer
3.9. Film hanger of different sizes
3.10. Film cassettes of different sizes
3.11. X-ray films of different sizes
3.12. Film dryer or film rack
3.13. X-ray caliper
3.14. Leaded aprons, gloves, and gonadal shields
3.15. Negatoscopes
3.16. Movable protective barrier

3.17. Leaded blockers
3.18. Phantom
3.19. Quality Control Test Tools

SECTION 4. The equipment, accessory devices, and materials necessary in a Radiologic Sciences laboratory shall be determined and provided for specific experiments performed.

Article XI
SELECTION, ADMISSION, RETENTION, AND PROMOTION OF STUDENTS

SECTION 1. The following are the requirements for an applicant for admission into the Radiologic Technology Education program:

1.1. Have graduated from a general secondary course authorized by the Department of Education Culture & Sports.

1.2. Have satisfactorily complied with admission requirements of the school.

SECTION 2. The higher education institutions shall provide for a systematic and continuing plan of evaluation of students' progress through a grading system that is consistent with the objectives of the institution. The promotional records shall be kept in the school within the following semester for examination in cases of grievances and complaints.

Article XII
ACCREDITATION AND INTERNSHIP PROGRAM

SECTION 1. The student shall have completed all academic requirements of the course to qualify for internship training program.

SECTION 2. The Radiologic Technology Internship Training Program shall be divided into Junior and Senior Internship periods of at least five (5) months each. An evaluation shall be conducted by the school at the end of each period for the purpose of promotion, ranking or testing the proficiency of the student. Students who failed shall repeat the internship training program for the particular period.

SECTION 3. The school shall enter into an affiliation contract with hospitals, clinics or health agencies with radiological facilities duly licensed by the Department of Health and such valid contract be made available to the Commission on Higher Education assessment team.

3.1. Radiologic Technology interns shall abide with the rules and regulation of their affiliate hospitals, clinics or health agencies and shall wear complete prescribed uniform. Above all, interns shall maintain proper decorum and professional excellence in the performance of their duties. Any infraction of the rules and regulations of the affiliate center shall carry a specific disciplinary action and this shall be reported to the school authorities within a reasonable period of time.

SECTION 4. An intern shall undergo eight (8) hours internship duty per day, five (5) days a week, and shall observe, assist, and perform in at least three hundred eighty-five (385) general radiographic examinations and fifty (50) specialized radiologic procedures during the entire training period.

4.1 The following procedures must be observed, assisted, and performed by students prior to graduation:

4.1.1. General Radiography

4.1.1.1. Upper Limb	50
4.1.1.2. Shoulder Girdle	20
4.1.1.3. Pelvic Girdle / Hip Joint	30
4.1.1.4. Lower Limb	50
4.1.1.5. Vertebral Column	10
4.1.1.6. Thoracic Cage	75
4.1.1.7. Thoracic Contents	75
4.1.1.8. Skull	20
4.1.1.9. Abdomen	20

4.1.2. Radiographic Procedures with contrast

4.1.2.1. Biliary System	5
4.1.2.2. Urinary System	10
4.1.2.3. Gastro-intestinal System	15
4.1.2.4. Other examinations	5

4.1.3. Specialized Radiological Procedures

4.1.3.1. Radiotherapy
4.1.3.2. Nuclear Medicine
4.1.3.3. Ultrasound
4.1.3.4. Computed Tomography
4.1.3.5. Magnetic Resonance Imaging
4.1.3.6. Interventional Radiology

4.2. A list of procedures/examinations observed, assisted, and performed shall be recorded in a logbook duly signed by the Supervising Radiologic Technologist of the hospital, clinic or health agency and submitted to the Internship Program Coordinator of the school.

SECTION 5. To ensure effective supervisory work, a Radiologic Technologist to intern ratio should be one is to four (1:4).

SECTION 6. The following are the guidelines on the selection of hospitals, clinics or health agencies for internship affiliation:

6.1. The hospitals or clinic must have a license to operate radiological facilities issued by the Department of Health.

6.2 The affiliated hospital, clinic or health agency for Radiologic Technology Internship Training program shall have an x-ray unit of not less than 100 mA and a minimum workload of twenty (20) patients per day for general radiography.

6.3. The hospital, clinic or health agency must employ qualified Radiologic Technologists duly licensed by the Professional Regulation Commission.

6.4. The hospital, clinic or health agency must have a

qualified Radiologist; a member of the Philippine College of Radiology or as prescribed by the Department of Health (under Administrative Order No. 35, series of 1994) for government hospitals and health agencies.

6.5. The hospital affiliate shall have a radiological training staff responsible for implementation of the internship training program.

Article XIII
GRADUATION OF STUDENTS

SECTION 1. The candidate for graduation shall:

1.1. Complete all the required number of units in the Radiologic Technology Education curriculum as prescribed by the school in conformity with existing policies and standards.

1.2. Have a minimum residence of one (1) year with an academic load of not less than thirty (30) units prior to internship in the school where the student is graduating.

1.3. Comply with all other requirements prescribed by the school.

ARTICLE XIV
EFFECTIVITY

SECTION 1. This set of policies and standards shall take effect beginning school year 2001-2002.

SECTION 2. This order supersedes all previous issuances concerning radiologic technology education which may be inconsistent or contradictory with any of the provisions hereof.

Pasig City, Philippines January 24, 2001.

ESTER ALBANO-GARCIA
Chairperson

ANNEX A

PROTOTYPE CURRICULUM

BACHELOR OF SCIENCE IN RADIOLOGIC TECHNOLOGY

FIRST YEAR

First Semester

	Lec	Lab	Units
Grammar & Composition I	3	-	3
Sining ng Pakikipagtalastasan	3	-	3
Logic	3	-	3
General Psychology	3	-	3
College Algebra	3	-	3
Natural Sciences (Elective)	3	2	5
Introduction to Radiologic Technology	2	-	2
P. E.			2
ROTC			(1.5)
TOTAL			24

Second Semester

	Lec	Lab	Units
Grammar & Composition II	3	-	3
Panitikang Pilipino	3	-	3
Philosophy of Man	3	-	3
Sociology/Anthropology	3	-	3
Social Science (Elective)	3	-	3
General Chemistry	3	2	5
Rizal	2	-	2
P. E.			2
ROTC			(1.5)
TOTAL			25

SECOND YEAR

First Semester

	Lec	Lab	Units
Philippine Literature	3	-	3
Basic Statistics	3	-	3
Health Ethics	3	-	3
Human Anatomy & Physiology	3	2	5
Health Care I	4	3	7
Computer	3	-	3
P. E.			2
ROTC			(1.5)
TOTAL			26

Second Semester

	Lec	Lab	Units
College Physics	3	2	5
Health Economics	3	-	3
Science, Technology & Society	3	-	3
Health Care II	3	2	5
Philippine Politics & Governance	3	-	3
Research	3	-	3
Medical Terminology	2	-	2
PE	-	-	2
ROTC			(1.5)
TOTAL			26

THIRD YEAR

First Semester

	Lec	Lab	Units
Radiologic Physics, Equipment & Maintenance	4	2	6
Radiographic Technique and Film Processing/Analysis	4	2	6
Radiographic Positioning and Radiologic Procedures	4	2	6
Radiologic Contrast/Special Examinations and Patient Management	4	1	5
Department Administration, Ethics and Jurisprudence	3	-	3
TOTAL			26

Second Semester

	Lec	Lab	Units
Radiobiology and Radiation Protection	3	-	3
Radiologic Pathology	3	-	3
Computerized Tomography (CT Scan) & Magnetic Resonance Imaging (MRI)	3	-	3
Digital Subtraction Angiography (DSA) & Interventional Radiology	3	-	3
Ultrasonography	3	-	3
Radiotherapy	3	-	3
Nuclear Medicine	3	-	3
Quality Assurance and Quality Control in Medical Imaging	3	-	3
TOTAL			24

FOURTH YEAR

First Semester

Junior Internship - 5 months hospital training (20 weeks) - 800 hours -	18
Seminar I	3
TOTAL	21

Second Semester

Senior Internship - 5 months hospital training (20 weeks) - 800 hours -	18
Seminar II	3
TOTAL	21

ANNEX B

COURSE DESCRIPTION

RADIOLOGIC TECHNOLOGY MAJOR COURSES

INTRODUCTION TO RADIOLOGIC TECHNOLOGY
2 Units (36 Hrs Lec) (Lecture 2 Hr/Wk)

An introductory course in Radiologic Technology which will provide the student with an understanding on the scope and outputs, practices and limitations of radiological sciences in general and Radiologic Technology in particular.

MEDICAL TERMINOLOGY
2 Units (36 Hrs Lec) (Lecture 2 Hrs./Wk.)

Study of various medical nomenclatures and their usage.

RADIOLOGIC PHYSICS, EQUIPMENT AND MAINTENANCE
6 Units (72 Hrs Lec/108 Hrs Lab) (Lecture 4 Hrs./Wk; Laboratory 6 Hrs./Wk)

Study of the physical principle of radiation, its characteristics, properties, interaction with matter, and application in the radiologic sciences as well as familiarizing the student with the circuitry of an x-ray unit, detect defects interfering with the proper function of the equipment, and the fundamentals of preventive maintenance.

RADIOGRAPHIC TECHNIQUE AND FILM PROCESSING/ANALYSIS
6 Units (72 Hrs Lec/108 Hrs Lab) (Lecture 4 Hrs./Wk; Laboratory 6 Hrs./Wk)

Study of proper selection, computation, generalization, and application of different technique factors in controlling and influencing image quality, the different systems and accessories involved in the conversion of latent image into visible radiographic image following sequential steps in manual and automatic processing as well as the factors affecting radiographic quality.

RADIOGRAPHIC POSITIONING AND RADIOLOGIC PROCEDURES
6 Units (72 Hrs Lec/108 Hrs Lab) (Lecture 4 Hrs./Wk; Laboratory 6 Hrs./Wk)

Study of the general foundation of positioning technique to obtain radiographic demonstration of anatomical structure of interest as well as specialized radiographic examinations of the different body structures and organs without contrast media.

RADIOLOGIC CONTRAST EXAMINATIONS *AND* PATIENT MANAGEMENT
5 Units (72 Hrs Lec/54 Hrs Lab) (Lecture 4 Hrs./Wk; Laboratory 3 Hrs./Wk)

Study of specialized radiographic examinations with application of contrast media to enhance and/or visualize different organs and body structures of interest and the elements of patient care and management relative to radiography.

DEPARTMENT ADMINISTRATION, ETHICS AND JURISPRUDENCE
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of the organization, function, supervision, and budgetary outlay of a radiological facility and the accepted ethical principles and legal aspect of the profession.

RADIOBIOLOGY & RADIATION PROTECTION
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of the effects of ionizing radiation on biological matters, the principles of radiation protection as well as the agencies and institutions mandated to regulate and monitor the safe use of radiation and radioisotope in medicine.

RADIOLOGIC PATHOLOGY
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of various pathologic conditions and its effect on radiological procedures, techniques and overall radiographic image.

COMPUTERIZED TOMOGRAPHY (CT-SCAN) *AND*
MAGNETIC RESONANCE IMAGING (MRI)
3 Units (54 Hr Lec) (Lecture 3 Hrs./Wk)

Study of the principles involved in diagnostic imaging modalities that produce cross-sectional, transaxial, coronal, and sagittal images of the human body.

DIGITAL SUBTRACTION ANGIOGRAPHY (DSA) AND INTERVENTIONAL RADIOLOGY
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Deals with the study of the principles involved in Digital Subtraction Angiography and Interventional Radiography; the parameters of imaging and equipment employed in these subspecialties.

ULTRASONOGRAPHY
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of the physical foundation of Ultrasound and its application to medical diagnosis.

RADIOTHERAPY
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of precise application of ionizing radiation in the treatment of neoplastic growth, a complete and effective treatment plan as well as patient care of oncology cases.

NUCLEAR MEDICINE
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of the principles and instrumentation in Nuclear Medicine and its diagnostic and therapeutic applications.

QUALITY ASSURANCE AND QUALITY CONTROL IN MEDICAL MAGING
3 Units (36 Hrs Lec/54 Hrs Lab) (Lecture 2 Hrs./Wk; Laboratory 3 Hrs./Wk)

Study of organized effort in a radiological facility to promote quality patient care and management and to make certain consistent production of high standard of quality radiographic images with minimum exposure to patient and personnel.

SEMINAR I
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

SEMINAR II
3 Units (54 Hrs Lec) (Lecture 3 Hrs./Wk)

Study of the advancement and technological innovations in the field of radiological sciences, to include physics update, educational concerns, and issues and

opinions of interest in the field through journal and article reviews, case presentations, symposia, and seminars.

JUNIOR INTERNSHIP (5 Months Hospital Training) (300 Hours) – 21 Units

SENIOR INTERNSHIP (5 Months Hospital Training) (300 Hours) – 21 Units

The Radiologic Technology Internship Training Program consists of at least ten (10) months of service divided into Junior and Senior Internship periods of five (5) months each. The program is a "Rotating Type", wherein Radiologic Technology Interns are assigned to various affiliation centers of the school. Satisfactory completion of the Internship Program is a requirement for graduation.

The Radiologic Technology Intern shall undertake to perform or assist in at least three hundred eighty-five (385) radiographic examinations in general radiographic examinations, and a minimum of fifty (50) procedures/cases in Radiotherapy, Nuclear Medicine, Ultrasound, Computed Tomography, Magnetic Resonance Imaging, and Vascular/Interventional procedures during the entire clinical internship period.