



RADIOGRAPHY CURRICULUM ANALYSIS

I. General Information	
Program Name	
JRCERT Program Number	
Date	

DIRECTIONS: Determine the course(s) in which each of the following content area is covered and enter the course number(s) and/or title(s). For guidance in what should be covered for each content area, please refer to the Radiography Curriculum (2017) published by the American Society of Radiologic Technologists.

II. Introduction to Radiologic Science and Health Care	
Professional Curriculum	Program Course(s)
The Health Science Professions	
The Health Care Environment	
Medical Terminology	
Medical Abbreviations and Symbols	
Procedures and Terminology	
Understanding Orders, Requests and Diagnostic Reports	

Hospital Organizations	
Radiology Organizations	
Accreditation	
Regulatory Agencies	
Professional Credentialing	
Professional Organizations	
Professional Development and Advancement	

III. Ethics and Law in the Radiologic Sciences	
Professional Curriculum	Program Course(s)
Ethics and Ethical Behavior	
Ethical Issues in Health Care	
Legal Issues	
Legal Doctrines and Standards	
Patient Consent	

IV. Human Anatomy and Physiology

Professional Curriculum	Program Course(s)
Anatomical Nomenclature	
Chemical Composition	
Cell Structure and Genetic Control	
Metabolism	
Tissues	
Skeletal System	
Muscular System	
Nervous System	
Sensory System	
Endocrine System	
Digestive System	
Cardiovascular System	
Lymphatic System and Immunity	
Respiratory System	
Urinary System	
Reproductive System	

Introduction to Sectional Anatomy	
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V. Pharmacology and Venipuncture	
Professional Curriculum	Program Course(s)
Drug Nomenclature	
Drug Classification	
General Pharmacologic Principles	
Six Rights of Drug Safety	
Drug Categories Relevant to Radiography (Uses and Impact on Patient)	
Contrast Agents	
Routes of Drug Administration	
Venipuncture	
Current Practice Status	

VI. Imaging Equipment	
Professional Curriculum	Program Course(s)
X-ray Circuit	
Radiographic Equipment	

Diagnostic X-ray Tubes	
Fluoroscopy	
Overview of Quality Control	

VII. Radiation Production and Characteristics	
Professional Curriculum	Program Course(s)
Structure of the Atom	
Nature of Radiation	
X-ray Production	
Interaction of Photons with Matter	

VIII. Principles of Exposure and Image Production	
Professional Curriculum	Program Course(s)
Exposure Factors	
Receptor Exposure	
Differential Absorption	
Spatial Resolution	
Shape Distortion	

Magnification	
Beam Restriction	
Beam Filtration	
Scatter Radiation	
Grids	
Exposure Factor Formulation	

IX. Digital Image Acquisition and Display	
Professional Curriculum	Program Course(s)
Image Acquisition	
Initial Processing	
Post Processing	
Image Acquisition Errors	
Quality Management	
Image Display	
Data Management	

X. Image Analysis

Professional Curriculum	Program Course(s)
Image Appearance Standards	
Imaging Standards	
Image Appearance Characteristics	
Procedural Factors	
Corrective Action	

XI. Radiation Biology

Professional Curriculum	Program Course(s)
Introduction	
Molecule	
Basic cellular biology	
Types of ionizing radiation	
Sources of medical radiation exposure	
Other sources of radiation exposure	
Radiation Energy Transfer	
Radiation Effects	

Radiosensitivity and Response	
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XII. Radiation Protection	
Professional Curriculum	Program Course(s)
Introduction	
Justification for radiation protection	
Potential biological damage of ionizing radiation	
Objectives of a radiation protection program	
Sources of radiation	
Legal and ethical responsibilities	
Units, Detection and Measurement	
Surveys, Regulatory/Advisory Agencies and Regulations	
Personnel Monitoring	
Application	
Patient Protection	

XIII. Clinical Practice

Professional Curriculum	Program Course(s)
Clinical Practice	
Procedural Performance	
Clinical Competency	

XIV. Patient Care in Radiologic Sciences

Professional Curriculum	Program Course(s)
Health Care Team	
Professionalism and Communication in Patient Care	
Patient/Radiographer Interactions	
Safety and Transfer	
Evaluating Physical Needs	
Infection Control	
Medical Emergencies	
Trauma	
Reactions to Contrast Agents	
Tubes, Catheters, Lines and Other Devices	
Mobile and Surgical Radiography	

XV. Radiographic Procedures

Professional Curriculum	Program Course(s)
Standard Terminology for Positioning and Projection	
General Considerations	
Patient Considerations	
Positioning Considerations for Routine Radiographic Procedures	
Procedural Considerations for Contrast Studies	

XVI. Radiographic Pathology

Professional Curriculum	Program Course(s)
Definitions/Terminology	
Causes of Disease (Process, Examples)	
Radiologic Pathology (Definitions, Etiology, Examples, Sites, Complications, Prognosis, Radiographic Appearance, Procedural and Technical Considerations, Appropriate Imaging Modality)	
Implications for Practice	

XVII. Additional Modalities and Radiation Therapy

Professional Curriculum	Program Course(s)
Bone Densitometry	
Cardiac-interventional	
Computed Tomography	
Magnetic Resonance	
Mammography	
Medical Dosimetry	
Nuclear Medicine	
Radiation Therapy	
Ultrasound/Sonography	
Vascular-interventional	