



RADIOGRAPHY CURRICULUM ANALYSIS GRID

| 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 (2022) published by the American Society of Radiologic Technologists.

| II. Introduction to Medical Imaging and Radiologic Sciences and Health Care | |
|-----------------------------------------------------------------------------|-------------------|
| Professional Curriculum | Program Course(s) |
| Medical Terminology | |
| Procedures and Terminology | |
| Orders, Requests, and Diagnostic Reports | |
| Health Professions | |
| Interprofessional Practice and Education | |
| Evidence-based Practice | |
| Health Care Environment | |

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|------------------------------------------|--|
| Health Provider Organization | |
| Accreditation | |
| Regulatory Agencies | |
| Radiology Organization | |
| Professional Credentialing | |
| Professional Organizations | |
| Professional Development and Advancement | |

| III. Ethics and Law in Medical Imaging and Radiologic Sciences | |
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| Professional Curriculum | Program Course(s) |
| Ethics and Ethical Behavior | |
| Ethical Dilemmas | |
| Legal Issues | |
| Legal Doctrines and Standards | |
| Patient Consent | |

| IV. Patient Care and Services in the Medical Imaging and Radiologic Sciences | |
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| Professional Curriculum | Program Course(s) |
| Health Care Team | |

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|------------------------------------------------------------|--|
| Professionalism in Patient Care | |
| Patient/Radiographer Interactions | |
| Safety and Transfer | |
| Evaluating Patient Needs | |
| Infection Control | |
| Medical Emergencies | |
| Trauma | |
| Drug Nomenclature | |
| Drug Classification | |
| General Pharmacologic Principles | |
| Six Rights of Drug Safety | |
| Drug Categories Relevant to Radiography (uses and effects) | |
| Contrast Agents | |
| Routes of Drug Administration | |
| Pharmacology and Venipuncture | |
| Tubes, Catheters, Lines, and Other Devices | |

V. 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 | |

VI. Radiographic Procedures

| Professional Curriculum | Program Course(s) |
|----------------------------------------------------------------|-------------------|
| Positioning and Projection Terminology | |
| General Considerations | |
| Patient Considerations | |
| Positioning Considerations for Routine Radiographic Procedures | |
| Procedural Considerations for Contrast Studies | |
| Mobile and Surgical Radiography | |

VII. Radiographic Pathology

| Professional Curriculum | Program Course(s) |
|---------------------------------------|-------------------|
| Definitions/Terminology | |
| Causes of Disease (Process, Examples) | |
| Radiologic Pathology | |
| Implications for Practice | |

VIII. Radiation Physics and Instrumentation

| Professional Curriculum | Program Course(s) |
|------------------------------------------------------|-------------------|
| Structure of the Atom | |
| Nature of Radiation | |
| X-Ray Production | |
| Photon Interactions with Matter | |
| X-ray Circuit | |
| Radiographic Equipment | |
| Diagnostic X-ray Tubes | |
| Fluoroscopy | |
| Quality Control of Imaging Equipment and Accessories | |

IX. Image Production

| Professional Curriculum | Program Course(s) |
|--------------------------|-------------------|
| Exposure Factors | |
| Image Acquisition | |
| Image Acquisition Errors | |

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|---------------------------------|--|
| Exposure Factor Formulation | |
| Computer Pre-processing | |
| Image Display | |
| Quality Management | |
| Image Informatics and Archiving | |
| Teleradiology | |
| Downtime Procedures | |

| X. Image Analysis | |
|--------------------------------|--------------------------|
| Professional Curriculum | Program Course(s) |
| Image Appearance Standards | |
| Imaging Standards | |
| Technical Factors | |
| Procedural Factors | |
| Clinical Factors | |
| Artifacts | |
| Equipment Malfunction | |
| Corrective Action | |

XI. Radiation Biology and Health Physics

| Professional Curriculum | Program Course(s) |
|--------------------------------------------------------|-------------------|
| Introduction | |
| Radiation Energy Transfer | |
| Radiation Effects | |
| Radiosensitivity and Response | |
| Introduction to Health Physics | |
| Units, Detection, and Measurement | |
| Surveys, Regulatory/Advisory Agencies, and Regulations | |
| Personnel Monitoring | |
| Application | |
| Patient Protection | |
| Personnel Protection | |

XII. Clinical Practice

| Professional Curriculum | Program Course(s) |
|-------------------------|-------------------|
| Professionalism | |
| Procedural Performance | |
| Clinical Competency | |

XIII. Additional Concentrations

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

OPTIONAL CONTENT

XIV. Basic Principles of Computed Tomography

| Professional Curriculum | Program Course(s) |
|---------------------------------------|-------------------|
| Computed Tomography Scanners | |
| Components, Operations, and Processes | |
| Radiation Protection | |

XV. Sectional Anatomy

| Professional Curriculum | Program Course(s) |
|-------------------------|-------------------|
| Anatomical Nomenclature | |
| Head and Brain | |
| Neck | |
| Chest and Mediastinum | |
| Abdomen | |
| Pelvis | |
| Musculoskeletal | |

XVI. Artificial Intelligence

| Professional Curriculum | Program Course(s) |
|-------------------------------------|-------------------|
| Terminology and Concepts | |
| Data and Data Sets | |
| Applications in Healthcare | |
| AI in Medical Imaging | |
| Ethics, Legality, and Liability | |
| Regulation and Workflow Integration | |
| Precision Medicine | |

XVII. Advancements in Medical Imaging

| Professional Curriculum | Program Course(s) |
|---------------------------------|-------------------|
| Imaging Detectors | |
| Imaging Technologies | |
| Volumetric Imaging (3D) | |
| Dynamic Digital Receptors (DDR) | |