

Program Number _____ Program Name _____

Date / /20



Radiation Therapy Curriculum Analysis

DIRECTIONS: Determine the course(s) in which each of the following content areas 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 Radiation Therapy Professional Curriculum (2019) published by the American Society of Radiologic Technologists.

Professional Curriculum	Program Course(s)
Clinical Practice	
Essentials of Clinical Practice	
Patient Assessment, Care and Education	
Simulation – CT, MRI, PET	
Treatment Planning	
Treatment Delivery	
Quality Assurance and Quality Management	
Clinical Competency	
Ethics in Radiation Therapy Practice	
Ethical Theories and Principles	
Provider/Patient Relationship	
Ethical Decision-making in Health Care Dilemmas	
Imaging and Processing in Radiation Oncology	
Basic Principles of Digital Imaging	
Image Characteristics	
Fundamental Principles of Exposure	
Computed Tomography Equipment in Radiation Oncology	
Radiation Oncology Digital Imaging Applications	
Imaging Modalities	
Healthcare Informatics Applications	

Professional Curriculum	Program Course(s)
Introductory Law in Radiation Therapy	
Sources of Law	
Intentional Torts	
Negligence	
The Lawsuit	
Components of Informed Consent, Patient Rights and Standard of Care	
Quality and Safety	
Documentation and Record Maintenance	
Risk Management	
Role of the Code of Ethics, Scope of Practice and Practice Standards	
Medical Terminology	
Introduction to the Origin of Medical Terminology	
The Word-building Process	
Medical Abbreviations and Symbols	
Orientation to Radiation Therapy	
Policies and Procedures of the Educational Program	
The Health Science Professions	
Hospital and Health Care Organizations	
Introduction to Radiation Therapy Practice	
Insurance and Billing	
Human Resources	
Departmental Budgeting	
Professional Organizations	
Professional and Community Commitment	
Professional Development	

Professional Curriculum			Program Course(s)
Pathophysiology			
General Pathology			
Introduction to Human Disease			
Theories of Disease Causation			
Basic Principles and Mechanisms of Disease			
Common Diagnostic Tests and Procedures			
Disorders of Nutrition			
Body Systems and Disorders, Including:			
Auditory	Genetic	Musculoskeletal	
Cardiovascular	Hematopoietic	Ocular	
Central Nervous	Immune	Reproductive	
Digestive	Integumentary	Respiratory	
Endocrine	Mental Health	Urinary	
Neoplasia			
Introduction			
Nomenclature			
Carcinogenesis			
Diagnosis			
Grading and Staging			
Prognostic Factors			
Malignancies, Including:			
Breast	Head and neck	Musculoskeletal	
Central Nervous	Hematopoietic	Reproductive	
Digestive	Integumentary	Respiratory	
Endocrine	Lymphatic	Urinary	
Principles and Practice of Radiation Therapy I			
Cancer Perspectives			
Treatment Determination for Overall Cancer Management			
Radiation Therapy Treatment			
Radiation Therapy Equipment			
Treatment Delivery Accessories			
Tumor Localization			
Pretreatment Verification Protocol			
Treatment Delivery Protocol			

Professional Curriculum			Program Course(s)
Principles and Practice of Radiation Therapy II			
Radiation Therapy Treatment of Neoplastic Disease Originating in the following sites:			
Breast	Genitourinary	Lymphoreticular	
Central Nervous	Head and Neck	Musculoskeletal	
Endocrine	Hematopoietic	Reproductive	
Gastrointestinal	Integumentary	Respiratory	
Pediatric neoplasms	HIV-related neoplasms	Benign neoplasms	
Metastatic and Palliative Treatment Applications			
Emergency Treatment Applications			
Radiation Therapy Quality Management, Quality Assurance, Safety and Operations			
Introduction			
General Principles			
Clinical Aspects QC Checks			
QA for Treatment, Simulation/Localization and Verification			
Particle Accelerators			
Brachytherapy			
Medical Dosimetry and Treatment Planning			
Radiation Biology			
Introduction			
Biophysical Events			
Radiation Effects			
Radiosensitivity and Response			
Biologic Principles of Radiation Therapy			
Radiation Physics			
Units of Measurement			
General Principles			
Structure of the Atom			
Structure of Matter			
Nature of Radiation			
Electromagnetic Radiation			
Electrostatics			
Magnetism			
Electrodynamics			
Production and Characteristics of Radiation			

Professional Curriculum	Program Course(s)
Radiation Protection	
Introduction	
Units, Detection and Measurement	
Surveys, Regulatory Agencies and Regulations	
Personnel Monitoring	
Practical Radiation Protection	
Brachytherapy	
Radiation Therapy Patient Care	
Introduction	
Communication in Patient Care	
Healthcare Informatics Applications	
Patient-family Interactions	
Assessment of Side Effects	
Assessment of Other Physical Needs	
Patient Examination	
Health Safety	
Medications and Their Administration	
Medical Emergencies	
Care of Patients With Tubes	
Brachytherapy Procedures	
Assessment of Nutritional Status	
Physical Activity Considerations	
Patient Transfer	
Patient Education	
Integrative Medicine	
Radiation Therapy Physics	
Structure of Matter and Properties of Radiation	
Nuclear Transformations	
Review of Production of X-rays	
Radiation Therapy Treatment Units (External Teletherapy)	
Interaction of Ionizing Radiation	
Measurement of Ionizing Radiation	
Quality of X-ray Beams	
Measurement of Absorbed Dose	
Dose Distribution and Scatter Analysis Overview	

Professional Curriculum			Program Course(s)
Research Methods, Evidence-Based Practice and Information Literacy			
Analysis of Research Articles			
Information Literacy Concepts			
Types of Research Projects			
Preparing a Research Project			
Sectional Anatomy			
Anatomic Planes of the Body			
Image Formation and Orientation			
Other Sectional Imaging Modalities			
Topographic and Sectional Anatomy to Include:			
Abdomen	Extremities	Pelvis	
Chest	Head and Neck	Spine	
Treatment Planning			
Isodose Descriptions and General Influencing Factors			
Patient Contours			
Radiobiologic Dosimetric Considerations			
Methods of Dosimetric Calculations			
Prevention of Overdose and Underdose			
Wedge Filters (2D Compensation)			
Tissue Compensators (2D and 3D Compensation)			
Clinical Applications of Treatment Beams and Accessories			
Optimal Treatment Planning Considerations, Evaluation and Implementation			
3D Conformal Therapy			
Intensity Modulated Radiation Therapy (IMRT)			
Particle Beams and General Dose Distributions			
Stereotactic Radiation Therapy			
Brachytherapy			
Emerging Treatment Methods and Planning			