

Program Number _____

Program Name _____

Date _____



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) into the appropriate column. For guidance in what should be covered for each content area, please refer to the Radiation Therapy Curriculum (2004) published by the American Society of Radiologic Technologists.

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Orientation to Radiation Therapy		
Health Science Professions		
Health Care Environment		
Hospital Organization		
Introduction to Radiation Therapy		
Professional Organizations		
Professional and Community Commitment		
Professional Development		
Ethics in Radiation Therapy Practice		
Ethical Theories and Principles		
Provider/Patient Relationship		
Confidentiality and Health Care Information		
Clinical Ethics Throughout the Life Span		
Ethical Issues in Health Care		
Biomedical Ethics and Health Care Policy		
Role of the Radiation Therapist in Health Care Issues		

Professional Curriculum	Prerequisite Course(s)	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		
Safety Issues		
Documentation and Record Maintenance		
Risk Management		
Role of the Code of Ethics, Scope of Practice, and Practice Standards		
Medical Terminology		
Word Building Process		
Medical Abbreviations and Symbols		
Radiation Therapy Patient Care		
Introduction		
The multidisciplinary health care team		
The radiation oncology team		
Communication in Health Care		
Patient Family Interactions		
Recognizing Daily Side Effects		
Evaluating Other Physical Needs		
Patient Examination		
Health Safety		
Medications and Their Administration		
Medical Emergencies		
Dealing with Acute Situations		
Care of Patients with Tubes		
Patient Care for Diagnostic Exams		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Radiation Therapy Patient Care (Con't)		
Patient Care During Brachytherapy Procedures		
Nutrition		
Physical Activity Considerations		
Safety and Transfer Positioning		
Methods of Patient Education		
Alternative and Complementary Treatments		
Radiation Protection		
Introduction		
Justification for radiation protection		
Biologic damage potential 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 and Maximum Permissible Dose		
Practical Radiation Protection		
Brachytherapy		
Pathology		
General Pathology		
Pathologic terminology		
Theories of Disease Causation		
Basic Principles and Mechanisms of Disease		
Common Diagnostic Tests and Procedures		
Disorders of Nutrition		
Genetics		
Immune System		
Integumentary System		
Musculoskeletal System		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Pathology (Con't)		
General Pathology (Con't)		
Cardiovascular System		
Respiratory System		
Digestive System		
Liver, Gallbladder, and Pancreas		
Endocrine System		
Urinary System		
Reproductive System		
Blood and Blood-forming Organs		
Eye and Ear Organs		
Nervous System		
Mental Health Disease and Disorders		
Neoplasia		
Nomenclature		
Carcinogenesis		
Diagnosis		
Grading and Staging		
Prognostic Factors		
Patterns of Spread		
Head and Neck Malignancies		
Central Nervous System Malignancies		
Respiratory System Malignancies		
Digestive System Malignancies		
Reproductive System Malignancies		
Urinary System Malignancies		
Endocrine System Malignancies		
Circulatory System Malignancies		
Lymphatic System Malignancies		
Integumentary System Malignancies		
Musculoskeletal System Malignancies		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Radiation Physics		
Units of Measurement		
General Principles		
Structure of the Atom		
Structure of Matter		
Nature of Radiation		
Electromagnetic Radiation		
Electrostatics		
Magnetism		
Electrodynamics		
Rectification		
Diagnostic X-ray Tubes		
X-ray Circuits		
Production and Characteristics of Radiation		
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		
Radiation Biology		
Introduction		
Review of cell biology		
Types of ionizing radiation		
Sources of medical radiation exposure		
Biophysical Events		
Radiation Effects		
Radiosensitivity and Response		
Biologic Principles of Radiation Therapy		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Medical Imaging and Processing		
Imaging Equipment		
Principles of Operation		
CT Simulator		
Portal Imaging		
Characteristics of Films Used in Radiographic Procedures		
Film Holders and Intensifying Screens		
Automatic Processor		
Artifacts		
Silver Recovery		
Other Imaging Modalities		
Principles and Practices of Radiation Therapy I		
Historical Perspective		
Cancer Problem		
Biological and Medical Aspect		
Malignant Diseases		
Patient and Personnel Safety		
Tumor Localization		
Treatment Considerations		
Treatment Modalities		
Technical Aspect		
Localization and Simulation		
Treatment Delivery Accessories		
Treatment Delivery		
Quality Assurance		
Principles and Practices of Radiation Therapy II		
Multidisciplinary Approaches to Neoplastic Disease Management		
Radiation Therapy Treatment of Various Neoplastic Diseases		
Palliative Treatment Applications		
Emergency Treatment Applications		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Quality Management		
Introduction to the Principles of Quality Management		
Definition and rationale		
Team approach		
Radiation therapist's role		
Accreditation standards		
Reporting regulations		
Treatment Documentation		
General Conditions of Patient Care Area		
Accessory Devices		
Communication Devices		
Computerization		
Treatment and Simulation/Localization Units		
Localization/Simulation Unit		
LDR, MDR, and HDR Brachytherapy		
Medical Dosimetry and Treatment Planning		
Device Fabrication		
Treatment Planning		
Isodose Descriptions and General Influencing Factors		
Patient Contours		
Radiobiologic Dosimetric Considerations		
Methods of Dosimetric Calculations		
Prevention of Overdose and Underdose		
Wedge Filters (2-D Compensation)		
Tissue Compensators (2-D and 3-D Compensation)		
Clinical Applications of Treatment Beams and Accessories		
Optimal Treatment Planning Considerations, Evaluations, and Implementation		
Particle Beams and General Dose Distribution at D_{max} , Central Axis, and Off-Axis		
Stereotactic		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Treatment Planning (Con't)		
3-D Conformal Therapy		
Brachytherapy		
Emerging Technologies		
Operational Issues in Radiation Therapy		
Continuous Quality Improvement		
Human Resources		
Accreditation		
Insurance and Billing		
Departmental Budget		
Professional Societies and Participation Opportunities		
Sectional Anatomy		
Anatomic Planes of the Body		
CT Overview		
MR Overview		
PET Overview		
Ultrasound Overview		
Other Sectional Imaging Modalities		
Topographic Anatomy		
Sectional Anatomy of the Head and Neck		
Sectional Anatomy of the Chest		
Sectional Anatomy of the Abdomen		
Sectional Anatomy of the Male and Female Pelvis		
Sectional Anatomy of the Spine and Extremities		
Clinical Practice		
Clinical Practice		
Code of ethics		
Role of health care team members		
Scheduling and sequencing of exams		
Patient Assessment, Care, and Education		
Simulation		

Professional Curriculum	Prerequisite Course(s)	Program Course(s)
Clinical Practice (Con't)		
Treatment Planning		
Treatment Delivery		
Quality Assurance and Quality Management		
General Education		
Human Anatomy		
Human Physiology		
College Algebra		
Precalculus Mathematics		
Computer Science		
Written Communication		
Verbal Communication		
General Physics		
Research Methodology		