RADIATION THERAPY
PROFESSIONAL COURSE DESCRIPTIONS

RDTH 100 - INTRODUCTION TO RADIATION THERAPY

CATALOG DESCRIPTION:

Content is designed to provide the student with an overview of the foundations in radiation therapy and the practitioner’s role in the health care delivery system. This course will provide students with a historical overview of radiation therapy and its role in medicine. An introduction to radiation therapy treatment techniques, equipment, terminology, and professional responsibilities will be included. Prerequisites: Admission to the Program.

RDTH 145 - CLINICAL EXTERNSHIP I

CATALOG DESCRIPTION:

The purpose of this course is to introduce the student to procedures performed in radiation therapy, and to provide the student with the opportunity to gain practical experience. During this first semester of clinical education, the student is expected to develop the competency to perform simple clinical procedures with progressively less assistance. Emphasis is given to the development of professional responsibility and the practice of total patient care. Prerequisites: Admission to the Program.

RDTH 150 - PATIENT CARE IN RADIATION ONCOLOGY

CATALOG DESCRIPTION:

Content is designed to provide the student with basic concepts of patient care specific to radiation therapy including consideration of physical and psychological conditions. Handling of patients, patient examinations, asepsis, local and systemic reactions, nutrition and medications are discussed. Factors influencing patient health during and following a course of radiation will be identified. Co requisite: RDTH 100 Introduction to Radiation Therapy

RDTH 155 - CLINICAL EXTERNSHIP II

CATALOG DESCRIPTION:

The purpose of this course is to introduce the student to procedures performed in radiation therapy, and to provide the student with the opportunity to gain practical experience. During this second semester of clinical education, the student is expected to develop the competency to perform simple clinical procedures with progressively less assistance. Emphasis is given to the development of professional responsibility and the practice of total patient care. Prerequisites: RDTH 145 Clinical Externship I.
RDTH 220 - TECHNIQUES AND APPLICATIONS IN RADIATION THERAPY

CATALOG DESCRIPTION:

Content is designed to provide the student with the basic concepts of dosimetry and treatment planning. Various external beam techniques and applications, depth dose data, and summation of isodose curves are discussed. Modalities of treatment, patient setup, dose measurement, dose calculation and verification are also included. Prerequisites: RDTH 100 Introduction to Radiation Therapy.

RDTH 223 - RADIOBIOLOGY AND SAFETY

CATALOG DESCRIPTION:

This is an introductory course that introduces the student to the fundamentals of radiobiology and the effects of radiation on living tissue. This course evaluates the effects of radiation from the cellular level, to the epidemiological effects on communities and potential offspring. Specific topics in radiobiology include; basic radiation interactions, cellular biology review, short and long-term effects of radiation, case studies, risk factors, containment and handling of live sources, reduction of patient dose, radiation monitoring and applicable state and federal regulations. Prerequisites: RDTH 100 Introduction to Radiation Therapy.

RDTH 225 - CLINICAL EXTERNSHIP III

CATALOG DESCRIPTION:

The purpose of this course is to further introduce the student to procedures performed in radiation therapy, and to provide the student with greater opportunities to gain practical experience. During this third semester of clinical education, the student is expected to develop the competency to perform simple and intermediate clinical procedures with progressively less assistance. Emphasis continues to be given on the development of professional responsibility, the practice of total patient care and radiation safety practices. Prerequisites: RDTH 155 Clinical Externship II.

RDTH 230 - PATHOLOGY AND TREATMENT PRINCIPLES I

CATALOG DESCRIPTION:

Content of this course will provide the student with the fundamentals of each disease process. Malignant conditions, etiology and epidemiology, patient workup and methods of treatment are discussed. Attention is given to patient prognosis, treatment results and the effects of combined therapies. Prerequisites: RDTH 220 Techniques and Applications in Radiation Therapy.
RDTH 232 - RADIATION THERAPY PHYSICS

CATALOG DESCRIPTION:

Content is designed to establish a basic knowledge of physics pertinent to developing an understanding of radiations used in the clinical setting. Fundamental physical units, measurements, principles, atomic structure and types of radiation are emphasized. Also presented are the fundamentals of x-ray generating equipment, x-ray production and its interaction with matter. Prerequisites: RDTH 220 Techniques and Applications in Radiation Therapy.

RDTH 233 - RESEARCH METHODOLOGY IN RADIATION ONCOLOGY

CATALOG DESCRIPTION:

This course is designed to introduce the student to the logic, method, variation and precision of thought required in the practice and/or consumption of research. RDTH 100 Introduction to Radiation Therapy.

RDTH 245 – CLINICAL EXTERNSHIP IV

CATALOG DESCRIPTION:

The purpose of this course is to further introduce the student to procedures performed in radiation therapy, and to provide the student with greater opportunities to gain practical experience. During this fourth semester of clinical education, the student is expected to develop the competency to perform intermediate and complex clinical procedures with progressively less assistance. Emphasis continues to be given to the development of professional responsibility and the practice of total patient care and radiation safety practices. Prerequisites: RDTH 225 Clinical Externship III.

RDTH 240 - PATHOLOGY AND TREATMENT PRINCIPLES II

CATALOG DESCRIPTION:

Content of this course is a continuation of Pathology and Treatment Principles I. This Course will provide the student with the fundamentals of several more disease processes. Malignant conditions, etiology and epidemiology, patient workup and methods of treatment are discussed. Attention is given to patient prognosis, treatment results and the effects of combined therapies. Prerequisites: RDTH 230 Pathology and Treatment Principles I.
RDTH 241 - TREATMENT PLANNING

CATALOG DESCRIPTION:
This course builds on the theories and principles learned in Techniques and Applications. Content will provide the student with the concepts of dosimetry and treatment planning. Various external beam techniques and applications, depth dose data, and summation of isodose curves are discussed. Modalities of treatment, patient setup, dose measurement, dose calculation and verification are also included. Prerequisites: RDTH 220 Techniques and Applications in Radiation Therapy.

RDTH 242 - QUALITY MANAGEMENT IN RADIATION ONCOLOGY

CATALOG DESCRIPTION:
Content is designed to focus on the evolution of quality management (QM) programs and continuing quality improvements in radiation oncology. Topics will include the need for quality assurance (QA) checks; QA of the clinical aspects and chart checks; film checks; the various types of evaluations and tests performed on simulators, megavoltage therapy equipment and therapy planning units; the role of radiation therapists in quality management programs; legal and regulatory implications for maintaining appropriate QM guidelines as well as the role computers and information systems serve within the radiation oncology department. Prerequisites: RDTH 232 Radiation Therapy Physics.

RDTH 243 - RADIATION THERAPY CAPSTONE COURSE

CATALOG DESCRIPTION:
This course is designed to integrate the various professional courses into a single perspective as it relates to radiation oncology. Professional concerns will be addressed and attention will be given to issues related to the workplace, continued professional development, and the need for lifelong learning. Extensive review of programmatic material will be the focus of this course. Extensive review of physics, protection and radiation therapy procedures is covered. Prerequisites: RDTH 223 Radiobiology and Safety, RDTH 232 Radiation Therapy Physics and RDTH 240 Pathology and Treatment Principles II.
RDTH 245 - CLINICAL EXTERNSHIP V

CATALOG DESCRIPTION:

This course allows the student to become proficient in all radiation therapy clinical procedures. During this last semester of clinical education, the students are further introduced to dosimetry procedures and are expected to have attained competency to perform all clinical procedures independently, under the direct supervision of a qualified professional or radiation therapist. Specific rotation objectives may be noted from the attached lists. Emphasis continues to be given to the development of professional responsibility and the practice of total patient care and radiation safety practices. Prerequisites: RDTH 235 Clinical Externship IV.

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