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www.health.txst.edu/rtt (https://www.health.txst.edu/rtt/)

The radiation therapist is a key member of the professional team, which uses various forms of radiation to treat cancer patients. Radiation therapy may be used alone, or in combination with surgery or chemotherapy, and is the treatment of choice for cure of many cancers. Because of sustained contact with patients, the radiation therapist has considerable responsibility in patient care, dietary counseling and treatment evaluation. The radiation therapist must also appreciate the significant psychological impact that cancer has on patients and their families. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). The curriculum complies with the professional curriculum of the American Society of Radiologic Technologists.

The Bachelor of Science in Radiation Therapy (B.S.R.T.) degree with a major in Radiation Therapy, is a two- and one-half year program beginning in the junior year. The junior and senior years combine clinical experiences in the affiliated radiation therapy facilities with advanced academic study in the professional disciplines. The program is designed to prepare students for the technical, theoretical, and psychological aspects of this career. Students acquire the technical skills necessary to plan, deliver, and record a prescribed course of radiotherapy. Upon completion of the degree, students are eligible to apply to the ARRT national registry examination.

Any student entering Texas State may declare a Bachelor of Science (B.S.) Major in health Science (Pre-Radiation Therapy Concentration) as their major. Admission to Texas State does not guarantee admission to the program. Admission to the program is competitive and selective. It is recommended that students arrange academic advising at least once prior to making application. The academic sequence begins during the fall semester. Enrollment is limited by student/faculty ratios in the clinical components of the program. The deadline for submission of applications is January 15.

Immunization Requirements

It is a policy of the College of Health Professions that each student must provide a Health Report completed by a physician or licensed healthcare provider, and must take certain immunizations before the student can be placed in a clinical or internship assignment. Information on these requirements and forms to be supplied may be obtained through the program office.

Criminal Background Check/Drug Screening

As a condition for placement in some professional practice sites, students are required to have a background check and/or drug screening and meet other requirements set by individual sites. Information on the process of drug screening will be provided by the program. Previous misdemeanor or felony convictions under various titles of the Texas Penal Code may affect eligibility for state license status following graduation and may affect admission consideration to the Radiation Therapy program.

Bachelor of Science in Radiation Therapy (B.S.R.T.)

- Major in Radiation Therapy (http://mycatalog.txstate.edu/undergraduate/health-professions/radiation-therapy-program/bsrt/)

Courses in Radiation Therapy Technology (RTT)

RTT 3120. Clinical Simulation Lab I.
Students are provided instruction and simulated practice in a controlled laboratory setting. This course provides first-year students foundational clinical set-up skills from which to build on during the clinical learning practicum course.
1 Credit Hour. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3121. Clinical Simulation Lab II.
Students are provided instruction and simulated practice in a controlled laboratory setting. This course provides instruction, demonstration and participation in immobilization, positioning and simulation with the aid of an anthropomorphic phantom. Students will learn aspects of simulation for basic treatment delivery applications.
1 Credit Hour. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3220. Directed Clinical Learning I.
Students will observe the basic operations of the radiation oncology clinic while interacting with the multidisciplinary team involved in providing treatment and care. The student will be introduced to oncology terminology, equipment, and techniques used for treatment. Learning is achieved through direct patient care, with instruction, demonstration and direct supervision.
2 Credit Hours. 1 Lecture Contact Hour. 16 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3221. Directed Clinical Learning II.
Students will gain additional skills in clinical procedures, interaction with patients and professional personnel. Students apply knowledge from previous clinical learning experience under the supervision of a registered radiation therapist. Students are tested on intermediate clinical radiation therapy skills.
2 Credit Hours. 1 Lecture Contact Hour. 16 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3300. Patient Care in Radiation Oncology.
This course will focus on basic nursing concepts involved in providing care for the cancer patient. Topics to be included in the class will be cancer as a chronic health problem, social roles and cancer, multidisciplinary approach to patient care, psychosocial dimension of cancer, in-treatment examinations, follow-up examinations, emergency management, chemotherapy and nutritional aspects of treating patients with cancer.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3301. Introduction to Radiation Oncology.
An overview of radiation oncology and the role of the radiation therapist. Presentations will orient the student to the physical and biological basis of radiation equipment, procedures, tumor pathology, and patient interaction. (WI).
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Writing Intensive
Grade Mode: Standard Letter

RTT 3302. Radiologic Science and Medical Imaging.
This course will cover the principles governing production of radiation, interaction of radiation with matter, and protection of the radiation worker and patient from exposure. Basic principles of x-ray equipment, exposure factors, latent image formation, and processing of radiographs are presented. Prerequisite: Instructor approval.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3310. Physics of Radiation Therapy I.
Students will learn the principles of radiation physics as they apply to the treatment and care of the cancer patient. Course will include a thorough review of x-ray production, fundamental principles, concepts and terminology. Topics studied include measurements, general principles, structure of the atom, structure of the matter, electrostatics, magnetism, electrodynamics, electromagnetism, rectification and production and properties of radiation and radiographic techniques.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3314. Radiation Therapy Sectional Anatomy.
The course provides instruction in identifying cross-sectional anatomy to develop the ability to make anatomic correlations between multiple planes of view. Major organs, lymphatics, vessels are emphasized as related to the clinical significance in the field of radiation therapy.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 3350. Radiobiology.
This course will cover the principles of cell response to radiation, including tissue sensitivity, survival, repair and the latent effects of irradiated tissue. Topics to be covered include the development of radiation science, cellular targets for radiation action, target theory, physical/ chemical factors affecting radiation response, biological factors, repair and recovery, fractionated doses and dose rate, early/ acute effects of whole body exposure, late/chronic effects of whole body exposure, and radiation protection dose guidelines.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4120. Clinical Simulation Lab III.
Students are provided instruction and simulated practice in a controlled laboratory setting. A continuation of RTT 3121. This course provides instruction, demonstration, and participation in immobilization, positioning and simulation with the aid of an anthropormorphic phantom. Students will learn aspects of simulation for basic intermediate treatment delivery applications.
1 Credit Hour. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4121. Clinical Simulation Lab IV.
Students are provided instruction and simluated practice in a controlled laboratory setting. A continuations of RTT 4120. This course provides instruction, demonstration and participantion in immobilization, positioning and treatment simluation. Students will learn aspects of simulation for basic, intermediate, and some advanced treatment delivery applications.
1 Credit Hour. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4122. Clinical Simulation Lab V.
Students are provided instruction and simulated practice in a controlled laboratory setting. A continuation of RTT 4121. This course provides instruction, demonstration and participation in immobilization, positioning and treatment simulation. Students will learn aspects of simulation for basic, intermediate, and some advanced treatment delivery applications.
1 Credit Hour. 0 Lecture Contact Hours. 4 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4189. Radiation Therapy Literary Scholarship and Manuscript Writing.
This intensive writing course provides instructions in research strategies, critical review and analysis of peer reviewed publications. An introduction to scholarly resources and professional manuscript development using peer reviewed journal guidelines for the profession of radiation therapy. This course prepares students for RTT 4191 Radiation Therapy Seminar. (WI).
1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Writing Intensive
Grade Mode: Standard Letter

RTT 4190. Professional Issues in Radiation Therapy.
This capstone course provides a comprehensive review of the program curriculum and clinical practice in the field. Current radiation therapy treatment management techniques and issues are presented for analysis.
1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Course Attribute(s): Exclude from 3-peat Processing|Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4191. Radiation Therapy Seminar.
This course is a continuation of RTT 4189. The course provides instruction in the completion of a final draft for the student's technical manuscript. The course work builds from the completed manuscript and draws from the material and knowledge gained in RTT 4189 to develop a formal presentation.
1 Credit Hour. 1 Lecture Contact Hour. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4220. Directed Clinical Learning III.
Students will continue to develop skills during this clinical course. Progressive interaction with patients and professional personnel are monitored as students practice radiation therapy in a supervised setting. Additional areas include problem solving, identifying machine components and basic side effect management. Students will demonstrate competence in beginning, and intermediate procedures.
2 Credit Hours. 1 Lecture Contact Hour. 16 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4221. Directed Clinical Learning IV.
The course provides students the opportunity to continue to develop confidence and increased skill in simulation and treatment delivery. Students will demonstrate competence in beginning, intermediate, and some advanced procedures through supervised clinical instruction, progressing through a competency-based educational sequence.
2 Credit Hours. 1 Lecture Contact Hour. 24 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4222. Directed Clinical Learning V.
The students will complete their clinical training by practicing all the skills they have learned in the classroom, lab, and clinical practicum. The students will continue demonstrating proficiency while completing the Skills Competency Checklist.
2 Credit Hours. 1 Lecture Contact Hour. 24 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4291. Radiation Therapy Registry Review.
This course provides a comprehensive review of the program curriculum and clinical practice in the field. Current radiation therapy treatment management techniques and issues are presented for analysis.
2 Credit Hours. 2 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4310. Physics of Radiation Therapy II.
Students will continue to learn the principles of cell response to radiation. Topics covered will include properties of x-ray and gamma radiation, radiation units, x-ray production, photon interactions, beam characteristics, radioactivity, treatment units, and particle irradiation.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4330. Quality Assurance.
Students will study quality assurance tests related to patient charts, treatment accessories, patient communication devices, machine reading and safety devices. Emphasis on quality control procedures to include Continuous Quality Improvement (CQI), Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and responsibilities of each team member in relation to quality assurance duties.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4331. Operational Issues in Radiation Therapy.
Course content is designed to focus on various radiation therapy operational issues. Accreditation, CQI development and assessment techniques will be presented. Human resource issues and regulations impacting the radiation therapist will be examined. Topics include the role of network information systems within the radiation oncology department. (WI).
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Writing Intensive
Grade Mode: Standard Letter

RTT 4360. Dosimetry I.
This course will cover the basic concepts in treatment planning and clinical dosimetry. Students will learn to identify treatment preparation processes and needs for beam modifying devices. Students will also be taught isodose charts for several treatment arrangements and be able to calculate a variety of external beam treatment formulas.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4361. Dosimetry II.
Students will learn additional concepts in treatment planning and clinical dosimetry addressed in Dosimetry I. Computerized treatment planning applications will enhance the understanding of medical dosimetry.
3 Credit Hours. 3 Lecture Contact Hours. 2 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions|Lab Required
Grade Mode: Standard Letter

RTT 4370. Clinical Radiation Oncology I.
The first of a two-part course, this course advances the student's knowledge of neoplastic disease management. Instruction will focus on the regional anatomy and physiology, epidemiology and etiology, detection and diagnosis, diagnostic procedures, histopathology, patterns of spread principles of treatment, staging, and prognosis.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter

RTT 4371. Clinical Radiation Oncology II.
The second of a twopart course, this course is a continuation of disease specific instruction. Instruction will focus on the regional anatomy and physiology, epidemiology and etiology, detection and diagnosis, diagnostic procedures, histopathology, patterns of spread, principles of treatment, staging, and prognosis. Prerequisite: RTT 4370 with a grade of "D" or better.
3 Credit Hours. 3 Lecture Contact Hours. 0 Lab Contact Hours.
Course Attribute(s): Dif Tui- Health Professions
Grade Mode: Standard Letter