

**RAD 510**  
**Simulation and Cross Sectional Anatomy in Medical Dosimetry**  
**Fall Semester Syllabus**

**COURSE DEFINITION:**

**RAD 510-2 Simulation and Cross Sectional Anatomy in Medical Dosimetry** - This course covers the conventional and CT simulation techniques used in initiating radiation therapy for cancer patients. Identification of cross-sectional anatomy at different anatomical locations within the human body is also reviewed. This course is twenty weeks in length.

Prerequisite: Admission to the Medical Dosimetry Program.

**COURSE OBJECTIVES:**

1. Demonstrate an understanding of Radiation Safety.
2. Demonstrate an understanding of CT simulation procedures.
2. Demonstrate an understanding of conventional simulation procedures.
3. Demonstrate an understanding of the cross sectional anatomy of the human body.
4. Demonstrate an understanding of the role of a medical dosimetrist.

**COURSE OUTLINE:**

**Topics**

1. Radiation Safety
2. CT simulation procedures
3. Conventional simulation procedures
4. Cranial cross sectional anatomy
4. Thorax cross sectional anatomy
5. Abdominal cross sectional anatomy
6. Pelvic cross sectional anatomy

**COURSE REQUIREMENTS:**

Purchase all texts, attend all lectures, and complete required examinations and quizzes. Participate in clinical internship. Purchase a T130XA scientific calculator.

**PREREQUISITES:** Admittance to the Medical Dosimetry Program.

**TEXTBOOKS:**

**Required:**

- Khan, F. M. (2020). *The physics of radiation therapy* (6<sup>th</sup> ed.). Philadelphia: Wolters Kluwer
- Khan, F.M. (2016). *Treatment planning in radiation oncology* (4<sup>th</sup> ed.). Philadelphia: Wolters Kluwer
- Washington, C. M., & Leaver, D. T. (2019). *Principles and practices of radiation therapy* (5th Ed). St. Louis: Mosby.

**Optional: (Students typically use clinical sites' copy)**

- Bentel, G. C. (1992). *Radiation therapy planning* (2nd ed.). New York: McGraw-Hill.
- Vann, A. M., et. al. (2013). *Portal design in radiation therapy* (3rd ed.). Augusta, Georgia: DMV Enterprises.
- Students should reference the nccn.org website for information. You will have to create a username and login.

**GRADING SCALE:**

90-100	A
80-89	B
70-79	C
<70	Failing

Grades will be determined by:

Test Performance	70%
Quizzes/Homework's/Presentations	30%

Late work will not be accepted. No credit will be awarded for work submitted after the deadline.

**Note: An overall GPA of 3.0 or greater in all graduate coursework is required to successfully complete the Medical Dosimetry Program. This is a SIUC Graduate School Policy.**