

**RAD 370**  
**TECHNIQUES AND APPLICATIONS**  
**RICK MCKINNIES**  
**FALL 2016**

**COURSE DEFINITION:**

Includes a study of the technical aspects of Radiation Therapy, including dosimetry, shielding, radioactive sources, and methodology. Lecture and laboratory format.

**COURSE OBJECTIVES:**

1. Demonstrate an understanding of the technical functions necessary to accurately administer high-energy x-rays for therapeutic purposes.
2. Demonstrate an understanding of accelerator and simulator mechanical operation, assurance of the safety of patients and other personnel, quality control, and maintenance of treatment records.
3. Demonstrate an understanding of all technical functions associated with simulation procedures.
4. Demonstrate an understanding of treatment techniques and anatomic relationships (including immobilization devices and beam modifying devices).
5. Demonstrate an understanding for the typical treatment doses for a given anatomical location.

**COURSE OUTLINE:**

1. Quality assurance procedures and assessment.
2. Treatment volume localization.
3. Treatment accessories.
4. Linear Accelerator set up procedures.
5. Simulation set up procedures.
6. Verification imaging.

**COURSE CLASSROOM and TIME:**

Room- ASA 11

Tuesday, Thursday and Friday- 1:00pm to 1:50 pm

**COURSE REQUIREMENTS:**

Purchase required text, attend all lectures, and complete required examinations and quizzes. Purchase a T130XA scientific calculator.

**ATTENDANCE POLICY:**

The instructor must be notified prior to class if you are going to be absent. One percent of total grade will be deducted for every class missed. Ten minutes late to a class counts as an absence.

**MEANS OF STUDENT EVALUATION:**

No late assignments/exams will be accepted unless preapproved by instructor

Grades will be determined by:

	<u>Grading Scale</u>
1. Test Performance .....70%	93 - 100 = A
2. Quizzes/Lab Exams.....30%	85 - 92 = B
	77 - 84 = C
<b>Final Exam Time:</b> TBA	70 - 76 = D
	0 - 69 = F

**PREREQUISITES:** Instructor approval.

## **BEING PREPARED FOR CLASS**

Students must be prepared for class by having all required textbooks, reading required chapters, and having all assignments completed when entering the classroom.

## **SIU POLICY ON “INCOMPLETE” AS A COURSE GRADE**

An INC assigned when, for reasons beyond their control, students engaged in passing work are unable to complete all class assignments. An INC must be changed to a complete grade within a time period designated by the instructor but not to exceed one year from the close of the term in which the course was taken, or graduation whichever occurs first. Should the student fail to complete the course within the time period designated, not to exceed one year, or graduation, whichever comes first, the incomplete will be converted to a grade of F and the grade will be computed in the students grade point average. Students should not register for courses in which an INC has been assigned with the intent of changing the INC grade. Re-registration will not prevent the INC from being changed to an F.

**PREREQUISITES:** Instructor approval.

## **TEXTBOOKS:**

### **Required**

1. Washington, C. M., & Leaver, D. T. (2015). Principles and Practices of Radiation Therapy (4<sup>th</sup> Ed). St. Louis, MO: Mosby.
2. Rad. 370 PowerPoint Booklet.

### **Recommended**

1. Weir, J., Abrahams, P.H., Spratt, J.D., Salkowski, L.R. (2010). Imaging Atlas of Human Anatomy (4<sup>th</sup> Ed). St. Louis, MO: Elsevier Science/Mosby

## **LABORATORY PARTICIPATION**

There is a laboratory requirement to this class. It will consist of one hour a week with time to be determined. Each laboratory missed will reduce the final grade by one percent.

## **CLASSROOM BEHAVIOR:**

The classroom is a “safe” environment for students. The focus will be on learning. Causing disruptions, harassment of other students, foul language, disrespect for others, or entertaining at someone else’s expense will not be tolerated.

For a detailed explanation of Student Code, consult “Student Conduct Code” found in Important information for siuc students, faculty, and staff. pp. 22-32. All other rules of the code must be followed. The Student Conduct Code is available at: <http://www.siuc.edu/~policies/policies/conduct.html>

Testing:

No student will be allowed to leave class during testing for any reason until the test is completed and turned in for a grade.

## **MOBILE TECHNOLOGY POLICY**

No mobile devices are allowed during class unless first Okayed by the instructor.

## **STATEMENT ON INCLUSIVE EXCELLENCE**

SIU contains people from all walks of life, from many different cultures and sub-cultures, and representing all strata of society, nationalities, ethnicities, lifestyles, and affiliations. Learning from and working with people who differ from you is an important part of your education in this class, as well an essential preparation for your career.

## STATEMENT ON ACADEMIC HONESTY/PLAGIARISM

As defined by the SIUC **Student Conduct Code**, acts of academic dishonesty include, but are not limited to:

1. **Plagiarizing** or representing the work of another as one's own work;
2. Preparing work for another that is to be used as that person's own work;
3. Cheating by any method or means;
4. Knowingly or willfully falsifying or manufacturing scientific or educational data and representing the same to be the result of scientific or scholarly experiment or research;
5. Knowingly furnishing false information to a university official relative to academic matters;
6. Soliciting, aiding, abetting, concealing, or attempting acts of academic dishonesty.

## ADA ACCOMMODATIONS:

In keeping with the goal of the implementation of the Americans with Disabilities Act (ADA), all students for whom this act applies should notify the instructor no later than the second session of the course so that arrangements can be made for accommodations to meet your educational needs and maximize learning.

## RESOURCES FOR ADDITIONAL ACADEMIC HELP

Supplementary Assistance: With cooperation of SIU's Disability Support Services (DSS), each student who qualifies for reasonable supplementary assistance has the right to receive it. Students requesting supplementary assistance must first register with DSS in Woody Hall B-150, (453-5738) or <http://disabilityservices.siu.edu/>

Notice: If you have any type of special need(s) or disability for which require accommodations to promote learning in this class, please contact me as soon as possible. The Office of Disability Support Services (DDS) offers various support services and can help you with you with special accommodations. You may wish to contact DDS at 453-5738 or go to Room 150 at Woody Hall to verify your eligibility and options for accommodations related to your special need(s) or disability.

## EMERGENCY PROCEDURE STATEMENT

Southern Illinois University Carbondale is committed to providing a safe and healthy environment for study and work. Because some health and safety circumstances are beyond our control, we ask that you become familiar with the SIUC Emergency Response Plan and Building Emergency Response Team (BERT) program. Emergency response information is available on posters in buildings on campus, available on BERT's website at [www.Bert.siu.edu](http://www.Bert.siu.edu). Department of Safety's website [www.dps.siu.edu](http://www.dps.siu.edu) (disaster drop down) and in Emergency Response Guideline pamphlet. Know how to respond to each type of emergency.

Instructors will provide guidance and direction to students in the classroom in the event of an emergency affecting your location. **It is important that you follow these instructions and stay with your instructor during an evacuation or sheltering emergency.** The building Emergency Response Team will provide assistance to your instructor in evacuating the building or sheltering within the facility

## OFFICE HOURS:

Office- Room 213A	Tuesday	9:00 a.m.-11:00a.m. and 3:00 p.m.-4:00p.m.
Building- CASA	Thursday	9:00 a.m.-11:00 a.m. and 3:00 p.m.-4:00p.m.
Phone- 453-7260	Friday	10:00 a.m.-12:00 p.m.
Email- rmck@siu.edu		

## LAB Requirement

All students will have one hour of lab time each week (Tuesday, Thursday, or Friday). This time will be scheduled in the first week of the semester.

## SIU EMAIL POLICY

Official SIU student Email Policy: <http://policies.siu.edu/policies/email.htm>

SIU Student Conduct Code: <http://policies.siu.edu/documents/StudentsConductCodeFINALMay32011.pdf>

## **SALUKI CARES**

The purpose of Saluki Cares is to develop, facilitate and coordinate a university-wide program of care and support for students in any type of distress-physical, emotional, financial, or personal. By working closely with faculty, staff, students and their families, SIU will continue to display a culture of care and demonstrate to our students and their families that they are an important part of the community. To make a referral to Saluki Cares click, call or send: <http://salukicare.siu.edu/index.html>; (618) 453-5714. Or [siucare@siu.edu](mailto:siucare@siu.edu)