

**RAD 352 - Special Imaging Modalities
Course Syllabus Spring 2016**

Course Instructor: Sandi Watts MSHA, RT(R), ARRT
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leave name, message and phone number
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Class Time: M & W 8:30-9:50 am, ASA Rm. 14

Office: ASA 131
Hours: M & W 1-3
T & H 1-3

COURSE DESCRIPTION:

This course provides the student with the knowledge and understanding relevant to the function, operation and application of the various techniques used in image production. This course also includes a complete review of the radiography curriculum in preparation for the American Registry of Radiologic Technologists National certifying examination.

PREREQUISITE: RAD 332

PREREQUISITE TO: RAD Specialization in Radiation Therapy, or MRI/CT

REQUIRED TEXTBOOKS:

Carlton, R.R. & Adler, A.M. (2013). Principles of Radiographic Imaging: An Art and a Science, 5th edition. Cengage Learning.

Calloway, W.J. (2012). Mosby's Comprehensive Review of Radiography: The Complete Study Guide and Career Planner, 6th edition. St. Louis, MO: Elsevier Science/Mosby.

REQUIRED ONLINE PROGRAM:

CorectecReview.com. Corectec's Online Radiography Review Course

Optional Textbooks:

Carlton, R.R. & Adler, A.M. (2013). Workbook for Carlton/Adler's Principles of Radiographic Imaging: An Art and a Science, 5th edition. Cengage Learning.

Saia, D.A. (2012). Radiography PREP: Program Review and Examination Preparation, 7th edition. McGraw-Hill Medical.

Saia, D.A. (2012). Lange Q&A Radiography Examination, 9th edition. McGraw-Hill Medical.

COURSE OBJECTIVES:

1. Student understanding of various techniques and modalities used in imaging through presentations given by their peers.
2. Review Radiation Protection topics for radiographers in preparation for the ARRT registry examination.
3. Review Equipment Operation and Quality Control topics for radiographers in preparation for the ARRT registry examination.
4. Review Image Acquisition and Evaluation topics for radiographers in preparation for the ARRT registry examination.

5. Review Imaging Procedures topics for radiographers in preparation for the ARRT registry examination.
6. Review Patient Care and Education topics for radiographers in preparation for the ARRT registry examination.

COURSE OUTLINE:	PERCENTAGE:
1. Radiation Physics	20%
2. Radiographic Image Quality (Film/Screen, CR, DR)	10%
3. Special Imaging Equipment I (Fluoroscopy, Tomography, Mammography, PACs)	10%
4. Special Imaging Equipment II (CT, MRI, Sonography, Nuclear Medicine)	10%
5. Generators (Single Phase, 3-Phase, 12-Pulse)	5%
6. Tubes and Phototimers/AEC	5%
7. Radiography mock board exams (3)	40%

ACADEMIC HONESTY:

All students are expected to adhere to a strict code of academic honesty. Academic honesty is addressed according to the “Policies and Procedures Applicable to Academic Dishonesty” as stated in the “Important Information for Students, Faculty and Staff” booklet, available from the Office of Vice Chancellor for Student Affairs.

ACTS OF ACADEMIC DISHONESTY, from the “SIUC Student Conduct Code”, section II Violations, article A (www.siuc.edu/~policies/conduct.html), but not limited to:

- A. Plagiarism, representing the work of another as one’s own work;
- B. Preparing work for another that is to be used as that person’s own work;
- C. Cheating by any method or measure;
- D. Knowingly furnishing false information to a University official relative to academic matters;
- E. Soliciting, aiding, abetting, concealing, or attempting conduct in violation of this code.

Penalties will be imposed for violations of this policy in accordance with the SIUC Student Conduct Code. These penalties may include one or more of the following disciplinary measures for a case of academic dishonesty:

- **A grade of zero (0) for the assignment, lab, quiz, or test.**
- **An “F” for the entire course.**
- **Recommendation of dismissal from the Program.**

STUDENT EVALUATION & GRADING:

The grading will be on a straight scale. Course grade will be based on presentations, exercises, quizzes and exams from class and from Corectec.

Grading Scale:

A = 93 – 100%

B = 85 – 92%

C = 75 – 84%

F = Below 75%

Tests are normally given as “multiple choice”. Partial credit is NOT given for incorrect answers. Students are **NOT permitted to use the restroom during a TEST. If you leave the classroom for any reason during a test, you will forfeit the test and receive a score from the questions you have answered **only**, with that number divided by the TOTAL number of questions on the test.

All students must pass each of their Radiologic Sciences prefix courses (RAD) with a grade of “C” or better in order to satisfy Program requirements, to graduate, and to pass the National Board Exam in Radiography. This grade of “C” or better is based upon the Radiologic Sciences grading scale.

Any student that fails a Radiologic Sciences course will not continue in our Program. When course failure occurs, the student will meet with the appropriate faculty member and academic advisor to discuss the student’s future educational goals. This discussion may include referring the student to the University Career Services office (www.siu.edu/~ucs; Woody Hall B 204; Ph: 618-453-2391) for testing via the “Strong Interest Inventory” to identify the academic majors that best fit the student’s personality, values, interests, and skills.

During the summer between the junior and senior years, each radiography student will take the National Board Exam in Radiography, administered by the American Registry of Radiologic Technologists (ARRT). This 200 question test has a minimum passing score of 75%. Therefore, to better prepare our students to take and pass this National Board Exam, the Radiologic Sciences Program uses a grading scale that is more stringent than the rest of the University.

PASSING THE ARRT BOARDS:

**** Students have to take and pass the ARRT Board exam by July 1st before they begin their fall semester of specialization classes (CT/MRI and Radiation Therapy). ****

ADA Accommodations:

Under the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act, educators and students have both rights and responsibilities. It should be the mutual goal of the student and university to maximize the likelihood that students with disabilities succeed. Accommodation sometimes is necessary.

If you think you have a learning disability, or know you have a disability but have not been tested, then please contact SIUC Disability Support Services (618-453-5738) for an appointment for the evaluation of your learning disability.

Once you have been diagnosed as having a learning disability, we, the faculty of the Radiologic Sciences Program, strongly encourage you to tell us what type of learning disability and what type of accommodation is needed to help you succeed in our Program. If you do not notify us (prior to the end of the first week of RAD 352

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the semester) that you have a disability, **and** you do not request accommodation during this course, then you accept full responsibility for your own success or failure in this course. **Ultimately, YOU are responsible for your own success or failure, and the resulting consequences.**

ATTENDANCE:

Please note:

- 1. Due to the frequently graphic content presented in this course, bringing infants and/or children to class is strongly discouraged!**
- 2. No Lap Top computers are allowed in class.**
- 3. Blogging, Tweeting, texting, sexting and all other electronic communications during class time is prohibited.**
- 4. Please turn off all cell phones/smart phones, MP3 players, PDAs, iPads, Kindle-like devices, headsets, pagers, beepers, all other personal communication devices, and remove all types of earbuds/earphones.**
- 5. If it's necessary to be in constant communication with your children, their school, business associates, spouse, friends, etc., then now is not the right time for you to be in our RADS Program!**

A record of daily attendance will be kept. Attendance is mandatory for this course. Habitual tardiness to class will result in points being deducted from the final grade. Each late arrival or absence will result in 0.5 point, daily deduction from the student's semester grade.

Any student that misses class is responsible for the material covered.

Whenever it is possible, **advance notice of absence is appreciated.** An email message is generally adequate. If you are unable to contact me prior to class, please do so as soon as possible.

Missed Exams: If absences occur on days when quizzes/exams are scheduled the ability to make up the quiz/exam will lie solely with the instructor. No guarantee is made, nor given, about the possibility of making up missed examinations. I must be notified in advance of your absence for a make-up exam to be considered. Quizzes may not be made up and may not be announced.

EMERGENCY PROCEDURES:

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 the BERT website (www.bert.siu.edu), the Department of Public Safety's website (www.dps.siu.edu; disaster drop down) and in the Emergency Response Guidelines 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 imperative that you follow these instructions and stay with your instructor during an evacuation of sheltering emergency. The Building Emergency Response Team (BERT) will provide assistance to your instructor in evacuating the building or sheltering within the facility.

EXPECTATIONS

Students are expected to be present, punctual, and prepared to discuss the assigned readings.

Any tests given will cover text, handouts, lectures, assignments, discussions, Corectec quizzes, and PowerPoint's. Students should be prepared to answer questions not only from current chapters, but from previous chapters as well. Any item covered in class is fair game for quiz and test questions. There may be a number of **unannounced quizzes**; be prepared at any time for the administration of a quiz without prior notice.

SIU Online (D2L): Students are expected to have a functioning @siu.edu email address. I am not responsible for servers, or email addresses, from any provider other than the university. Assignments, notes, course material, and grades may be posted electronically through D2L; therefore frequent checks of your D2L and SIU email will be expected.

ASSIGNMENTS:

Presentation Description:

Each student will participate in presenting a topic pertaining to a Special Imaging Modality. The special modality list includes but not limited to: MRI, CT, Interventional Radiology, Nuclear Medicine, Ultrasound, Radiation Therapy, Cardiac Cath Lab, Cardiac Sonography, Quality Assurance Testing and C-Arm Surgery. Students will work in groups of three (3). These groups will be chosen on the first day of class. The topic can be presented anyway the student chooses, but Power Point is the preferred method. The topic must be approved by the instructor and a copy of the presentation must be submitted to the instructor electronically no later than the day BEFORE the presentation. The presentation length should not exceed 15 minutes, but be at least 12-15 minutes. Each of the three participants will provide a portion of the presentation. No tests will be conducted on information learned from these presentations. The presentation dates will be chosen on the first day of class.

Information in the presentation should include but is not limited to:

- History
- How machine works
- How image is acquired
- All parts of the machine
- Take us thru an exam of your choice from beginning to end
- Images
- Pictures of machines
- Conclusion including five (5) points the audience should take away from the presentation
- References

Evaluation and Point Value of Power Point Presentation:

- Presentation earning an “A” grade will be of excellent quality, reflecting critical thinking, creativity and mastery of course material. They will be well organized and clear. They will be free of errors in syntax, grammar and format and will be typed. The standard percentile rank for an “A” grade is 93-100.
- Presentation earning a “B” will be of good quality, reflecting a solid grasp of course material. They will be well organized, but may contain some errors in syntax, grammar and format. They may be handwritten. The standard percentile range for a “B” grade is 85-92.
- Presentation earning a “C” will be of acceptable quality, reflecting familiarity with course material. They may be weak in syntax, grammar or formatting. The standard percentile range for a “C” is 77-84.
- Presentation earning a “D” will be of barely acceptable quality, they will contain weakness in syntax, grammar and formatting. They will be almost unacceptable, reflecting little understanding of course materials. The standard percentile range for a “D” is 70-76.
- Presentation earning an “F” grade will be of unacceptable quality. They will reflect little or no understanding of the course material. They may contain grievous errors in syntax, grammar and formatting. Any percentage below 70 will be considered failing.

Corectec Lessons and Quizzes:

Please see schedule for timeline of lessons and quizzes. **Students will have to receive an 80% or better on all exercises, quizzes and exams for the student to pass the class and for the instructor to sign that you have graduated to the ARRT so you may sit for the Registry.**

RAD 352 Tentative Schedule Spring 2016

WEEK	DATE	TOPIC/ASSIGNMENT
1	Jan. 18	ML King Day No School
	Jan. 20	Introduction to Course Syllabi, Drawing, etc.
2	Jan.25	Radiation Physics Pre-Test #1
	Jan.27	Review of Physics Pre-Test
3	Feb. 1	Radiation Protection Lesson 1 & 2
	Feb. 3	“
4	Feb. 8	Radiation Protection Lesson 3 & 4
	Feb. 10	“ (2 Presentations)
5	Feb. 15	Equipment Operation & Quality Control Lesson 5 & 6
	Feb. 17	“ (2 Presentations)
6	Feb. 22	Image Acquisition & Evaluation Lesson 7 & 8
	Feb. 24	“
7	Feb. 29	Image Acquisition & Evaluation Lesson 9
	March 2	“ (2 Presentations)
8	March 7	***Lessons 1-9 Exercises and Quizzes Due*** (2 Presentations)
	March 9	Radiation Physics Test #2
9	March 14	Spring Break
	March 16	Spring Break
10	March 21	ARRT Board Applications Imaging Procedures Lesson 10 & 11
	March 23	“
11	March 28	Imaging Procedures Lesson 12 & 13
	March 30	“
12	April 4	***Lessons 10-13 Exercises and Quizzes Due*** (2 Presentations)
	April 6	Radiation Physics Test #3
13	April 11	Patient Care and Education Lesson 14 & 15
	April 13	“
14	April 18	****Corectec Practice Exam 1 Due****
	April 20	Conference
15	April 25	Radiation Physics Test #4
	April 27	***Lessons 14&15 Exercises and Quizzes Due***
16	May 2	Review
	May 4	****Corectec Practice Exam 2 Due****
17	Finals	