

**SALT LAKE COMMUNITY COLLEGE
Radiologic Technology Program**

Course Syllabus



Course and Credit Hours: RADS 2010 2 hours

Name of Course: Image Analysis

Semester and Term:

Class Location and Time:

Course Delivery:

Due to the uncertainties of COVID-19, course delivery (such as moving to online) is subject to change at any point during the semester if recommended or mandated by state/national government officials.

Instructor and Phone:

Office Location:

Mailbox Location:

Email Address:

Consultation Hours:

Textbook:

Merrill's Atlas of Radiographic Positions and Procedures, E. D. Frank, B. W. Long, & B.J. Smith, 14th Edition Principles of Radiographic Imaging, Carlton and Adler 6th Edition

Required Equipment:

none

Link or Instructions for Accessing Online Course Materials:

Library Link:

For a list of resources that support the program go to:
<http://libguides.slcc.edu/content.php?pid=16754>

Prerequisite:

Completion of prior semester courses per established curriculum plan.

Course Description:

An advanced course that requires students to analyze all technical aspects of radiographic image production and use problem-solving

skills to determine proper corrections required for unacceptable radiographs.

SLCC Student Learning Outcomes:

SLCC is committed to fostering and assessing the following student learning outcomes in its programs and courses.

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically & creatively
5. Become a community engaged learner
6. Work in professional & constructive manner
7. Develop computer & information literacy

Student Learning Outcomes: Students will be assessed using worksheets and summative exams

1. Analyze a wide range of radiographic images to determine acceptability using the evaluation criteria found in Merrill's atlas of Radiographic Positioning and Procedures. (SLO- 1,2,3,4,6,7)
2. Differentiate between the technical factors used when producing acceptable radiographic images. (SLO- 1,3)

Course Objectives:

Upon completion of this course, the student will be able to:

3. Define density/brightness
4. State the effects of density changes on image appearance
5. Describe the process of evaluating images density
6. Assess density on various images
7. Calculate technique changes using the exposure maintenance formula
8. Define the 15% rule
9. Explain the anode heel effect
10. Explain the various terms used to describe contrast
11. Describe the factors that affect contrast
12. Assess contrast on various radiographic images
13. Differentiate between high and low or long and short contrast
14. Express the relationship between density and contrast
15. Define recorded detail, including synonymous terms
16. List the factors that affect detail
17. Compare and contrast film vs. digital detail
18. Differentiate between motion and double exposed radiographs
19. Define size and shape distortion
20. Discuss OID and SID in relation to distortion
21. List factors that affect shape distortion
22. Recognize various forms of distortion of radiographic images
23. Display the proper way to hang or post a radiograph

24. Demonstrate the proper way to mark a radiograph
25. Define the difference between and identify an optimal image, an acceptable image and an unacceptable image
26. Analyze a wide range of radiographic images to determine acceptability using the evaluation criteria found in Merrill's atlas of Radiographic Positioning and Procedures
 - a. Analyze that required anatomy is present on the image
 - b. Determine that the relationship between anatomical structures are accurate for each projection/position demonstrated
 - c. Identify that bony cortical outlines and/or soft tissue structures are sharply defined.
 - d. Identify that maximum radiation protection is utilized on each image.
 - e. Recognize unwanted artifact on images.
 - f. Confirm images are demonstrated without unwanted distortion and have proper density, contrast and detail
 - g. Evaluate collimation usage

Course Requirements:

Tests and Quizzes. As per the Student Handbook, **tests and quizzes must be taken on the day assigned at the designated time. In the event the student will miss a test or quiz, they must call or e-mail the instructor PRIOR to the designated test start time. Phone messages are acceptable.** IF THE STUDENT DOES NOT CALL OR E-MAIL PRIOR TO THE TEST OR QUIZ START TIME, the student must take the test or quiz with an automatic 50% deduction.

All tests and quizzes are to be made up by or on the 1st class day the student returns. It is the student's responsibility to initiate making up tests and quizzes. If they fail to do so, they forfeit the opportunity to take the test or quiz.

Attendance. As per the Student Handbook, **attendance in class is extremely important. You are forming work habits and a reputation that will follow you into the professional environment. You are expected to be present for all courses and participate in planned activities. It is the responsibility of the student to obtain notes, handouts or assignments given on any missed day. *Students who have absences in excess of 20% of total attendance time in each course will be terminated from the program***

Student Responsibilities. Students are expected to complete reading assignments prior to scheduled class/lab times. Students should have completed worksheets, etc. and be prepared to discuss the material knowledgeably. If the student is having difficulty in the course, it is the student's responsibility to talk with the Instructor. Students are expected to be self-directed and motivated in identifying their learning needs associated with the course content.

Assignments. Each assignment has a specific due date as noted on the course schedule. No late assignments will be accepted.

Worksheets: each student will be expected to review the material outlined on their schedule to be covered on the worksheet. Students will be given 2 hours to complete the worksheet. The 1st hour will be on your own with **no (textbooks, powerpoints, or notes)**. The 2nd hour the student can refer to their textbooks with **no (powerpoints or notes)**. Start and finish times are to be documented on the worksheet. Each student is responsible for submitting it on Canvas prior to the Tuesday WebEx grading day. Any missed worksheets must be made up within the week prior to the next worksheet or the student will be given a zero. Worksheets will be reviewed/graded on the WebEx grading day (see schedule for dates).

Image analysis (Student Radiographs): each student will submit a discussion post of a radiograph procedure that they have taken. It will be a minimum of 300 words. Each student will respond to another students post.

The discussion post will be on the topic; "What **difficult radiographic procedure** have you performed that resulted in a: Merrill's textbook perfect image or an image that needed to be altered/fixed by taking a repeat".

Students are to elaborate upon the following in their post:

- Describe the atmosphere or environment during the procedure.
- Describe the patient condition.
- Was it a normal exam, trauma, or portable?
- Where was the radiograph performed (ED, OR, NICU, MED SURG, RAD DEPT....)?
- What were the challenges involved in performing the procedure and getting the image?
- How you felt when you saw your image for the first time after critiquing it (was it perfect or in need of repeating).
- What were your feelings at the time?
- What made this exam so memorable for you and what did you learn from it?

Incomplete. Students must complete all requirements and receive a C grade or higher in each course to remain in the program.

Class Procedure or Format:

This class will consist of worksheets completed in class, lab assignments that will be presented in class and images analyses that will also be discussed in class.

Course Evaluation:

12 Worksheets	60%
Image Analysis	10%
Midterm	15%
Final	15%

Grading:

95-100	A	75-77	C
90-94	A-	71-74	C-
87-89	B+	67-70	D+
83-86	B	64-66	D
80-82	B-	Below 64	E
78-79	C+		

SLCC Institutional Resources:

For information on SLCC Institutional Resources, please refer to the link on Canvas

Wireless Devices in the Classroom:

The advent of technology use in the classroom as an instructional tool has caused both opportunities and distractions. The expectations for this course are that you are engaged and present during class time, which means that you will be free from technological distractions. Research has shown that these distractions cause individual inattentiveness and can make it difficult for other to stay focused on immediate discussions. The following policies are in effect during our time together:

1. iPods/Pads, pages, High-Resolution DVR Spy pens with webcam, microphones, recorders or any other wireless devices (excluding ADA authorized devices) that may distract from the class are to be silenced before entering the classroom and may not be on the desk or person during class.
2. Cell phones are to be silenced to the "vibrate" mode, which allows students to receive SLCC emergency notifications through email or text messaging alerts.
3. Wireless devices can be checked during class breaks outside the classroom.
4. You are expected to engage in discussion for the class. If you are discovered engaging in reading/texting messages, surfing the web and engaging in other computer activities not directly related to class, you will be asked to leave the class and will be counted as absent for that class session.
5. You may not record or publish information from the class without written authorization from the instructor. If used without written authorization, you will have violated "Privacy/Intellectual Property Rights".

Emergency Evacuation Procedures:

In case of an emergent situation, elevators should not be used as emergency exits. All class members should exit through the nearest doors on the west side of the building, then proceed toward the round-about on the northeast side of the building. We will then verify that all students are accounted for and unharmed. Please inform your instructor if you require assistance or accommodation during an evacuation. The instructor will identify

several students in the class that are willing to provide assistance. If you have a disability, please notify your instructor and fill out an Evacuation Information Form.

The SLCC Department of Public Safety is using an app called the Crisis Manager to inform students and staff about Emergency Procedures. The app allows SLCC to instantly update these procedures. To download this app go to the App Store or Google Play Store, type **SchoolDude CrisisManager** in the search box and click "Get" or "Install. For questions regarding the Emergency Procedures or downloading the app to your device, please contact

SLCC Syllabus Statement on Face Coverings:

Salt Lake Community College is committed to face coverings as a way to protect everyone on campus. Until further notice, SLCC [policy](#) requires everyone to wear face coverings in shared public spaces on campus, including the classroom. When we wear face coverings, we're protecting ourselves and others. Reusable cloth masks are available at campus information desks (one per person). Students who forget a face covering will be asked to retrieve it, or they will be provided with a disposable mask. Students refusing to wear a face covering will be dismissed from class. Additionally, a referral will be made to the Dean of Students for a possible violation of the Code of Student Rights and Responsibilities. Students who choose not to wear a face covering are encouraged to take [Online or Broadcast/Internet Lecture](#) courses.

Note that some students may qualify for accommodations through the Americans with Disabilities Act (ADA). If you think you meet these criteria and desire an exception to the face covering policy, contact the [Disability Resource Center](#) (DRC).

ACADEMIC GRIEVANCE POLICY

In accordance with the Salt Lake Community College Student Code of Conduct, http://www.slcc.edu/policies/docs/Student_Code_of_Conduct.pdf, the grievance policy for students with reference to academics can be found in Section III. Students are encouraged to seek resolution with the instructor(s) whenever possible.

It is the goal of the School of Health Sciences to be forthright and consistent with specific academic policies throughout divisions and programs. This policy singularly addresses academic issues and the general principles for disciplinary actions as noted in the Student Code of Conduct Section III. It should be noted it is up to the faculty's discretion to provide warning (verbal or written), suspension, or dismissal based upon program policy and severity of the issue at hand. It is realized in some health sciences programs a failing grade, as stated in the syllabus and/or policy manual, may result in program dismissal.

STEP ONE: A student has the right, as per college policy, to grieve a grade, warning (verbal or written), suspension, or dismissal received within a program of study. A student, as per policy, must make an appointment to meet with the instructor of the class. A meeting, for anything other than a final grade, should be made within ten (10) days of the incident. Final grade disputes require a meeting within 30 days of the student receiving the grade. Every effort should be made to find resolution and provide evidence from both parties with respect to the grade issued.

STEP TWO: If a resolution cannot be made, the student must request in writing five (5) business days from the date of meeting with the faculty, a committee review of the grievance to the Associate Dean of the specific division. The grievance will be reviewed by a committee consisting of three (3) to five (5) faculty outside the program in which the student is enrolled. This will include the following members, the Associate Dean and two to four faculty members outside the discipline. The Associate Dean will serve as committee chair. One faculty and the program coordinator of the program involved in the grievance can attend the procedure, as can the student with one representative. Each of these parties will only be allowed to present evidence to the committee and not vote on the issue in question. Legal representation is allowed by either party. The proceedings will be recorded for accuracy. Upon completion of the proceedings, the committee ONLY will vote on the issue(s) noted in the student's grievance. A formal letter will be provided by the committee chair within ten (10) business days of the end of the proceeding with the committee's decision regarding the issue.

STEP THREE: If the student is not satisfied with the outcome, they may appeal to the Academic Dean of the School of Health Sciences. This must be done in writing within five days of receiving the formal letter from the grievance committee chair. The Dean will review the appeal, all evidence, and render a decision to the student within ten (10) days of receiving the formal letter from the student. The decision of the Dean of the School of Health Sciences is final and cannot be appealed.