Radiographic Imaging III

RADS - 2030 301

Course Student Learning Outcomes

- Quality Assurance: compare various exposure systems, describe the advantages and disadvantages of fixed and variable kilovoltage peak (kVp) systems, explain why measurement of part thickness is critical to the accurate use of techniques systems, describe the function of the radiographer when using automatic exposure control systems, describe how programmed exposure control systems operate, state the steps necessary to establish a technique system, explain a basic phantom testing procedure, describe the process of selecting an optimal image range, extrapolate a technique system from a limited number of phantom images, describe the clinical trial and fine-tuning process, describe the principles of fixed kVp technique theory, define optimal kVp, explain how to establish fixed kVp for various subject parts, describe the steps in establishing a fixed kVp technique system, synthesize a fixed kVp technique system from control radiographs, define quality assurance and quality control and discuss their relationship to excellence in radiography, describe the process of identifying imaging requirements, developing equipment specifications, selecting equipment, installing equipment, testing equipment, and training the technical staff, describe the objectives and responsibilities of monitoring equipment performance, discuss primary quality control tests for external radiation beam monitoring of diagnostic radiographic systems, fluoroscopy and automatic exposure controls, discuss appropriate monitoring factors for digital radiography detectors, list primary quality control tests, explain the rationale behind the data collection process and the basic analysis of a radiograph repeat-rate study, describe a basic trouble shooting procedure.
- Fluoroscopy: differentiate fluoroscopic examinations from static diagnostic radiographic examinations, describe a typical basic fluoroscopic image chain, explain the difference between the operation of a fluoroscopic and a diagnostic x-ray tube, explain the functions and operation of the image intensification tube input screen, photocathode, electrostatic focusing lenses, anode, and the output screen,

explain the basic function of a fluoroscopic automatic brightness control, discuss the factors that affect fluoroscopic image contrast, resolution, distortion, and quantum mottle, explain the uses of dynamic and static fluoroscopic recording systems, explain digital fluoroscopic image acquisition.

- Advanced Areas of Radiology: demonstrate a knowledge of the advanced areas of radiology to aid furthering skills and education, explore baccalaureate school requirements for advanced areas in radiology, research and present information on an advanced area of radiology.

Engagement Plan

Example language:

- I will respond to email within24 hours. I will offer feedback on major assignments within one week. The best way to contact me is via the Canvas Inbox, as I will prioritize this email over other modes of communication.
- In this course I will be posting interactive announcements which will offer specific opportunities for class questions and extra credit every other week.
- Additionally, I will be participating in the discussion forums with you to share my perspective within the discipline and to offer some nuances of interpretation that may not be present in your textbook.
- Lastly, we'll be holding small group Q & A sessions, where we can learn from our peers (and faculty) on some of the more difficult units within the course.

Brief Description of Assignments/Exams

Advanced Modality Presentation- Students will research and prepare a 50 min. presentation about an advanced modality. Students will work in groups of 2 or 3 and will be graded on Historical perspective, Examinations performed, Equipment special to modality, Special patient considerations, Employment opportunities, and Special education requirements. They must also include a 2 page paper about their research; thoughts from professionals in the field and their own feelings. Specific grading criteria will be given in canvas.

Worksheets- There will be 5 worksheets. Some of which will require work in the lab.

Quality Assurance Project- Student can work as a group or individually to complete a project at their clinical site that will evolve some aspect of quality assurance (students can consult CP or imaging leaders for ideas) Specific grading criteria will be given in canvas.

Quizes- 2

Tests- 2 (non comprehensive final)

Assignment Schedule

Due Date	Assignment Name	Assignment Type	Points
	Introduce Yourself	Discussion	0
	Introduce Yourself	Discussion	0
9/2/25	Worksheet 1	Assignment	100
9/9/25	Worksheet 2	Assignment	100
9/9/25	Worksheet 3	Assignment	100
9/16/25	Lab Assignment	Assignment	100
9/23/25	Quiz 1	Quiz	14
10/2/25	Test 1	Quiz	43
10/7/25	Worksheet 4	Assignment	100
10/21/25	Quiz 2	Quiz	15
10/30/25	Test 2	Quiz	45

Due Date	Assignment Name	Assignment Type	Points
11/12/25	QC Assignment	Assignment	50
12/10/25	Modality Research Project	Assignment	100
12/10/25	Class Play List	Assignment	

Grading Scale

Worksheets:

Worksheet (4 @ 1%) 4%

Lab:

Fixed/Variable Kilovoltage 3%

Quizzes:

Ch 31 & 32 Quiz 4%

Ch 36 Quiz 4%

Assignment:

Quality Management Assignment 15%

Examinations:

Examination I 25%

Examination II 25%

Project/Presentation:

Instructor Review (75 pt)

Class Review (10 pt)

Participation (5 pt)

Paper (10 pt)

Total 20%

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+

Late Assignment Policy

Timely submission of assignments is essential for success in this course. The following penalties will apply to late submissions:

- 1 day late: 25% deduction
- 2 days late: 50% deduction
- 3 days late: 75% deduction
- More than 3 days late: Not accepted

Assignments must be submitted through the designated platform by the stated deadline. If you anticipate a delay due to extenuating circumstances, please contact the instructor before the due date to discuss possible accommodations. Exceptions may be granted at the instructor's discretion with appropriate documentation

How to Navigate to Canvas

Institutional Policies

As members of our academic community, we would like to invite you to review the Institutional Syllabus which covers important policies and procedures. This document contains important links for students on the code of student rights and responsibilities, academic integrity, and grading policies, Title IX and other important acknowledgements. By familiarizing yourself with this information, you can help us create a safe and respectful environment for everyone.

For more information, navigate to the Institutional Policies tab on the Institutional Syllabus page.

Learning Support and Tutoring Services

We are pleased to offer a range of tutoring and learning support services to help you achieve your academic goals. Whether you need assistance with a specific subject or want to improve your study skills, you have many options for tutoring or other support.

To learn more about the services we offer and how to access them, visit the Institutional Syllabus page under the Tutoring and Learning Support tab. We encourage you to take advantage of these resources to help you succeed in your studies. If you have any questions or would like to schedule a tutoring session, please don't hesitate to reach out to us. We are here to support you in any way we can.

Advising and Counseling Support Services

At our institution, we are committed to supporting your academic and personal growth. That's why we offer a range of advising and counseling services to help you navigate the challenges of college life. To learn more about the resources available to you and how to access them, visit the Institutional Syllabus page under the Advising and Counseling Support Services tab. Our advising team and the support centers across campus are here to support you in achieving your goals and overcoming any obstacles you may face.

Student Academic Calendar

As students you should be aware of all important dates in the semester, such as the day that courses begin and end, as well as the drop date and the last day to withdraw. To learn more about those dates, navigate to the Student Academic Calendar below:

SLCC Student Academic Calendar