

SOUTHERN MAINE COMMUNITY COLLEGE
South Portland, Maine 04106

TITLE: Radiographic Exposure II-Spring 2018
CREDIT HOURS: 3
INSTRUCTOR: Seth Doane BA, RT(R) (CT)
PREREQUISITES: Radiography Majors
LOCATION: HSC 215

CATALOG NUMBER: RADG 215-01
TOTAL CONTACT HOURS: 45
CONTACT: 1-207-741-5596
EMAIL: sdoane@smccme.edu
TIME: MWF 9:00-9:50

COURSE DESCRIPTION This course continues to explore the factors and equipment involved in the practice of radiography, and their effects on image quality. The fundamentals of digital radiography will be explored in detail, departmental exposure systems, AEC, and PACS. Upon successful completion of this course, the radiography student should be able to identify and adjust the factors involved in image acquisition, in order to optimize image quality and prevent unnecessary radiation dose to the patient.

Prerequisite(s): RADG-115

Co-requisite(s): Health Science Students

COURSE OBJECTIVES: Through this course the student will develop the ability to:

1. Understand the effects of patient considerations on image acquisition, and how to modify technique to compensate
2. Identify the effects of focal spot, SID, OID, beam-part-image receptor alignment, motion, and AEC
3. Understand the binary system of computers, how diagnostic information is created as signal in digital detectors, how computers can pre- and post-process image data to enhance specific image qualities, and what the radiographer's role is in this process
4. Identify the types and composition of various digital detectors (CR and DR)
5. Understand the concerns involved with Digital storage of electronic image files
6. Apply knowledge of Exposure Index to optimize patient dose
7. Utilize the acquired knowledge to improve image acquisition and diagnostic efficacy of studies
8. Understand the principles and components of Digital Radiography workflow
9. Understand the factors that define a radiography department exposure system

TOPICAL OUTLINE OF INSTRUCTION:

1. Generators and Filtration
2. Field Size Limitation
3. Patient Condition, Pathology, and Contrast Agents
4. Grids
5. Anode Bevel/Focal Spot
6. SID/OID
7. Alignment/motion
8. Analyzing the Latent Radiographic Image
9. Using AEC
10. Computer Basics
11. Creating the Digital Image

ATTENDANCE POLICY

1. The student is expected to attend all class sessions.
 2. **Attendance** is expected as follows: **Three** absences are allowed during the semester. The final grade will drop **5** points for each absence over three.
 3. Please keep cell phones on **vibrate** during class.
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COURSE REQUIREMENTS: Exams, take home assignments, in class worksheets

CLASS PARTICIPATION: This is a dynamic, participatory class and students are encouraged to contribute to class discussions by sharing clinical/personal experiences relevant to the topic to the class. Students are encouraged to bring in case studies from the field and present them to the class.

EXAMS: This course will have at least 4 exams and a cumulative final.

HOMEWORK, WRITTEN REPORTS, IN-CLASS ASSIGNMENTS: Additional teaching material may be incorporated to enhance the learning process. Assignments that involve out of class work in either clinic or the x-ray lab will be given, to promote student engagement with the material.

EXAMS:

- Students will not be allowed into the classroom once an exam has begun. Students who miss an exam due to late arrival will be required to take it later that same day.
- Students who are absent for an exam must contact the instructor to make up the exam the next class day.
- Make-up exams will be graded based upon **95%**. (this reflects a five point loss to the overall grade for the exam)
- Students may leave the classroom after their completed exam is turned in to the instructor. Entry back into class is not allowed until the end of class.

STUDENT EVALUATION AND GRADING POLICY: Exams: **80%**, + Class Participation/Homework/
Assignments: **20%** = Final Grade.

The course must be successfully completed with a grade of **75** or better. **GRADING SCALE:** The following is the grading scale utilized in this course.

A	95-100	B-	82-84
A-	92-94	C+	79-81
B+	89-91	C	75-78
B	85-88	F	Below 75

TEXTBOOK, TOOLS AND SUPPLIES:

Textbooks: *Radiography In The Digital Age, Carroll, 2nd Edition*

References: Class handouts

INSTRUCTIONAL MATERIALS UTILIZED:

- Power Point presentations
 - Lab demonstrations
 - **Web Enhancement:** Course syllabus, class schedule, handouts, power point lectures, and study guides will be posted on the Learning Manage System (LMS).
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End-of-Course Evaluation

Students complete evaluations for each course attended at SMCC. Evaluations are submitted online and can be accessed through the student portal. Students can access the course evaluations beginning one week before the end of classes. The deadline for submission of evaluations occurs Monday at 5 PM following the last day of the class. You will receive an email to your student email account when course evaluations are available.

ADA Syllabus Statement:

Southern Maine Community College is an equal opportunity/affirmative action institution and employer. For more information, please call 207-741-5798. If you have a disabling condition and wish to request accommodations in order to have reasonable access to the programs and services offered by SMCC, you must register with the Disability Services Coordinator, Sandra Lynham, who can be reached at 741-5923. Further information about services for students with disabilities and the accommodation process is available upon request at this number. Course policies about online testing are modified to suit each individual's accommodations.

SMCC Pay-for-Print Policy

Per Page Costs

Each semester students receive a \$20 printing credit. The balance resets at the end of the semester and any remaining credits are removed. The cost varies depending upon page size and whether printing is done in black and white or color.

- a. There is a \$0.10 per page fee for standard 8.5" by 11" black and white documents.
- b. The reverse sides of duplex (double-sided) documents are free.
- c. There is a \$.50 per page fee for standard 8.5" by 11" color documents.
- d. There is a \$.20 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) black and white documents.
- e. There is a \$1.00 per page fee for 8.5" by 14" (legal) or 11" by 17" (tabloid) color documents.

Duplex charges (printing on both sides of a page) work in the following fashion: One page is \$0.10, two pages are \$0.10, three pages are \$0.20, and four pages are \$0.20, etc. The flipsides are free, but another sheet of paper is \$0.10. Please be aware that a document with any color at all (when printed to

a color printer) will by default be printed in color. You are responsible for setting the print job to print black and white if you do not need color. For directions, please go to the IT Help tab in My SMCC.

How does it work?

The College's pay-for-print system monitors printing on all printers (including those in general access labs, library printers, the Academic Achievement Center, Noisy Lounge and technology labs). Students can check the number of pages they have printed by using the Printing Balance tool available on SMCC computers (located in the lower right corner of the screen, near the clock). Departments with work study students who need to print documents for the department should contact the Help Desk at 741-5696 to have a special account set up.

Refunds

Print jobs are eligible for a refund in the event of mechanical or electronic error on the part of the printer, print server, or software used to submit the job. Jobs are not eligible for a refund in cases where the job was not set up correctly, was submitted multiple times, or the student is not satisfied with the result. To request a refund, please bring the offending print to the IT Department in the basement of the Ross Technology Center. Refunds will be granted in the form of a credit to the student's account.

Why is SMCC charging for printing?

The pay-for-print system is an effort to control escalating printing costs. Charging for printing helps offset the increasing cost of supplies and encourages students to conserve resources. To find ways to reduce your printing charges, please go to the IT Help tab on My SMCC. If you have questions about the pay-for-printing policy or your printing charges, please contact the Help Desk at 741-5696 or send an email to helpdesk@smccme.edu.

Be sure to log OUT of the system when you've finished your printing, to prevent unauthorized access to your account.

Add-Drop Policy

Students who drop a course during the one-week "add/drop" period in the fall and spring semesters and the first three days of summer sessions receive a 100% refund of the tuition and associated fees for that course. Please note any course that meets for less than the traditional semester length, i.e., 15 weeks, has a pro-rated add/drop period. There is no refund for non-attendance.

Withdrawal Policy

A student may withdraw from a course only during the semester in which s/he is registered for that course. The withdrawal period is the second through twelfth week of the fall and spring semesters and the second through ninth week of twelve-week summer courses. This period is pro-rated for shorter-length courses. To withdraw from a course, a student must complete and submit the appropriate course withdrawal form, available at the Enrollment Service Center (no phone calls, please). The designation

“W” will appear on the transcript after a student has officially withdrawn. A course withdrawal is an uncompleted course and may adversely affect financial aid eligibility. Failure to attend or ceasing to attend class does not constitute withdrawal from the course. There is no refund associated with a withdrawal.

Plagiarism Statement

Adherence to ethical academic standards is obligatory. Cheating is a serious offense, whether it consists of taking credit for work done by another person or doing work for which another person will receive credit. Taking and using the ideas or writings of another person without clearly and fully crediting the source is plagiarism and violates the academic code as well as the Student Code of Conduct. If it is suspected that a student in any course in which s/he is enrolled has knowingly committed such a violation, the faculty member should refer the matter to the College’s Disciplinary Officer and appropriate action will be taken under the Student Code of Conduct. Sanctions may include suspension from the course and a failing grade in the course. Students have the right to appeal these actions to the Disciplinary Committee under the terms outlined in the Student Code of Conduct.