

RADR 2209  
Radiation Imaging Equipment  
Fall 2023  
Tuesday 2 – 4 pm

**Instructor's name, email, and phone number**

- Laura Schrettner
- [lschrettner@com.edu](mailto:lschrettner@com.edu)
- 409-933-8681

**Student hours and location**

- Monday 10am - 12pm Room 225-51 or via Teams
- Thursday 9am - 11am Room 225-51 or via Teams

**Required textbooks/material**

- **Textbook**
  - *Principles of Radiographic Imaging, 6th Edition.*
    - Carlton, Adler, Balac
    - ISBN 978-1-337-71106-7
    - Cengage
  - *Principles of Radiographic Imaging Workbook, 6th Edition.*
    - Carlton, Adler, Balac
    - ISBN 978-1-337-29311-7
    - Cengage
- **Brightspace D2L**
  - We will be using Brightspace D2L for this course, so you will need access to a computer and the Internet. There is also a **mobile-friendly** app and can be used on your phone or tablet through the or a mobile browser!
- **Computers**
  - You will need a computer with audio and video capabilities. Exams may be given online and require a webcam and microphone. While the majority of the tests will be in person, there may be times you are asked to take a proctored exam remotely. You may take your exams on campus, and computers are located in the library and the tutoring center.

**Course description:**

Equipment and physics of x-ray production. Includes basic x-ray circuits. Also examines the relationship of conventional and digital equipment components to the imaging process.

**Course Requirements**

- Attend all classes.
- Complete all exams and assignments.
- Participate in class activities and labs.

- Participate in group activities.

### **Determination of Course Grade/Detailed Grading Formula**

The Radiologic Technology program utilizes this course grading scale:

- 90-100% = A
- 80-89% = B
- 75-79% = C
- 65-74% = D
- 64% or below = F

### **Make-Up Policy**

Late assignments are not accepted for any course in the Radiologic Technology Program. Students are responsible for completing all assignments and are responsible for any course content missed by absence or tardiness.

### **Textbook Purchasing Statement**

A student attending College of the Mainland is not under any obligation to purchase a textbook from the college-affiliated bookstore. The same textbook may also be available from an independent retailer, including an online retailer.

### **Attendance Policy**

Students are required to attend and participate in every session of all classes for which they are registered. Regular attendance is a critical component to being successful in courses. Students should consult with their instructors when it is necessary to miss a class prior to the class. COM recognizes no excused absences other than those prescribed by law: religious holy days and military service. Students are expected to attend all didactic and lab classes.

Excessive absences (including arriving late and leaving early) prevents the student from meeting the objectives of the course and the Program. If a student is absent, they must contact the faculty before the start of class and explain the situation. A student who misses more than 2 class periods will be given a written warning for excessive absences. A student who misses 3 or more class periods is considered unable to complete the program objectives and can be removed from the class by an instructor-initiated withdrawal.

If two or more consecutive days are missed, an official note from your healthcare provider must be provided to return to the clinical environment.

Students cannot attend a clinical rotation on any non-scheduled day, holidays, or outside of the course dates.

A student who is more than twice tardy for a course will be given a written warning. A tardy in a didactic class is arriving 5 minutes or more after the scheduled start time and/or leaving the class before the end of the scheduled time (unless dismissed early by the instructor). Arriving on time to class will be a requirement of the remediation plan. A student who cannot successfully complete a remediation plan due to excessive tardiness, can be removed from the class by an instructor-initiated withdrawal.

Extenuating Circumstances can be discussed with Program faculty.

### **FN Grading:**

The FN grade is issued in cases of *failure due to a lack of attendance*, as determined by the instructor. The FN grade may be issued for cases in which the student ceases or fails to attend class, submit assignments, or participate in required capacities, and for which the student has failed to withdraw. The issuing of the FN grade is at the discretion of the instructor. The last date of attendance should be documented for submission of an FN grade.

### **Withdrawal Policy**

Students may withdraw from this course for any reason prior to the last eligible day for a “W” grade. Before withdrawing students should speak with the instructor and consult an advisor. Students are permitted to withdraw only six times during their college career by state law. The last date to withdraw from this course is November 28.

### **Communicating with your instructor**

- All electronic communications with your instructor must be through your COM email. Due to FERPA restrictions, faculty cannot share any information about performance in the class through other electronic means.
- The best way to get a hold of me is through my school email - lschrettner@com.edu. You may also contact me through your course mailbox.
- If you are contacting me regarding a particular course, and you use the school email, please be sure to tell me which course it is.
- Student Lounge - Here is where you can ask questions of each other. If you do not understand a concept, post your questions here and a peer can answer you with their knowledge. This way you can learn from each other. You can also ask simple questions such as "when is". I will monitor this, so if you do not get a response from a peer, I can help you.
- Office Hours are Monday 10am - 12pm Room 225-51 or via Teams (2023 Cohort), and Thursday 9am - 11am Room 225-51 or via Teams (2023 Cohort).
- If I am with a student, you will need to wait in the lobby.
- I will respond to emails within 48 hours, Monday through Friday. I check my emails various times throughout the day Monday through Friday, during regular business hours.

### **Academic Success & Support Services:**

College of the Mainland is committed to providing students with the necessary support and tools for success in their college careers. Support is offered through our Tutoring Services, Library, Counseling, and through Student Services. Please discuss any concerns with your faculty or an advisor.

#### **Success Tips for Students**

- [7 habits of highly successful students](#)
- [7 habits of highly performing students](#)

- [Brightspace D2L videos](#)

### **ADA Statement**

Any student with a documented disability needing academic accommodation is requested to contact Kimberly Lachney at 409-933-8919 or klachney@com.edu. The Office of Services for Students with Disabilities is in the Student Success Center.

### **Early Alert Program**

The Student Success Center at College of the Mainland has implemented an Early Alert Program because student success and retention are very important to us. I have been asked to refer students to the program throughout the semester if they are having difficulty completing assignments or have poor attendance. If you are referred to the Early Alert Program, you will be contacted by someone in the Student Success Center who will schedule a meeting with you to see what assistance they can offer for you to meet your academic goals.

### **Classroom Conduct Policy statement**

Please review the Radiologic Technology Program student handbook.

### **Academic Dishonesty statement**

Academic Dishonesty: Any incident of academic policy will be dealt with in accordance with college policy and the Student Handbook. Academic dishonesty – such as cheating on exams is an extremely serious offense and will result in a grade of zero on that exam and the student will be referred to the Office of Student Conduct for appropriate discipline action. Unauthorized use of AI-content generators is a form of academic dishonesty.

### **Plagiarism statement**

Plagiarism is using someone else's words or ideas and claiming them as your own. Plagiarism is a very serious offense. Plagiarism includes paraphrasing someone else's words without giving proper citation, copying directly from a website, and pasting it into your paper, using someone else's words without quotation marks. Any assignment containing any plagiarized material will receive a grade of zero and the student will be referred to the Office of Student Conduct for appropriate discipline action. Links to resources about avoiding plagiarism:

- [Purdue OWL](#)
- [Excelsior OWL](#)
- [YouTube UMass Dartmouth](#)

### **Grade Appeal Process**

Concerns about the accuracy of grades should first be discussed with the instructor. A request for a change of grade is a formal request and must be made within six months of the grade assignment. Directions for filing an appeal can be found in the [student handbook](#). *An appeal will not be considered because of general dissatisfaction with a grade, penalty, or outcome of a course. Disagreement with the instructor's professional judgment of the quality of the student's work and performance is also not an admissible basis for a grade appeal.*

## Resources to Help with Stress

If you are experiencing stress or anxiety about your daily living needs including food, housing or just feel you could benefit from free resources to help you through a difficult time, please use our [community resources](#). College of the Mainland has partnered with free community resources to help you stay on track with your schoolwork, by addressing life issues that get in the way of doing your best in school. All services are private and confidential. You may also contact the Dean of Students' office at [deanofstudents@com.edu](mailto:deanofstudents@com.edu) or [communityresources@com.edu](mailto:communityresources@com.edu).

## Concerns/Questions Statement

Please contact the instructor regarding any issues or concerns about the course.

College of the Mainland is committed to providing an educational climate that is conducive to the personal and professional development of everyone. To ensure our commitment, the College has developed procedures for students to address their concerns within the college community. A student who has an unresolved disagreement with a faculty or staff member, another student, a student group, or dissatisfaction with the service received may initiate a complaint without prejudicing his or her status with the College. Please review the Radiologic Technology Student Handbook and the [COM Student Handbook](#) for the process.

## Outcomes and Objectives Mapping

Upon completion of the course, the student will be able to:	Maps to Core Objective	Assessed with this assignment
Differentiate between conventional and digital equipment	<b>Apply the knowledge and skills to be a clinically competent entry-level radiographer.</b>	Module 5 Exam
Explain the physics of x-ray production	<b>Students will employ effective communication skills</b>	Assignment – Electron Interactions
Describe the x-ray circuit	<b>Students will employ effective communication skills</b>	Assignment – Group project
Relate conventional and digital equipment components to the imaging process	<b>Students will demonstrate independent critical thinking and problem-solving skills</b>	Module 5 Exam

## Student services

### [Counseling](#)

Counseling Services offers free academic and personal counseling. Workshops and individual sessions are available to assist students in recognizing and resolving academic and personal concerns. Students who may need assistance with goal setting, problem solving, study skills, motivation, or communicating effectively are encouraged to access services in the Student Success Center located on the first floor of the Doyle Family Administration Building.

### [Tutoring](#)

Tutoring is available for Math, Science, and writing and is available face-to-face, online, or by eTutoring sessions.

### [Disability Services](#)

Accommodation is available to COM students with documented disabilities. To request accommodations, contact the Office for Students with Disabilities, located in the Student Success Center on the first floor of the Doyle Family Administration Building.

### [COM Library Radiologic Technology Page](#)

CM Library staff have created a webpage of resources, just for you.

### [Library](#)

The library hosts a variety of resources for students, including books, journals, and learning material. The library also hosts a computer lab accessible to students.

### [Trio-Student Support Services](#)

TRIO-Student Support Services (TRIO-SSS) is a federally funded grant program through the U.S. Department of Education that provides support for students in meeting their academic, personal, career and other education-related goals.

### **Disclaimers / Additional Policies**

Course policies are subject to change. It is the student's responsibility to check Brightspace/D2L for corrections or updates to the syllabus. Any changes will be posted in Brightspace/D2L.

The Radiologic Technology Program courses build upon each other. The ARRT board exam covers ALL content taught in the program. In each course, there will be test questions from prior modules within the course, as well as prior classes.

Please refer to the Radiologic Technology Student Handbook for more information on specific program policies and additional clinical requirements.

### Course schedule

<b>Week</b>	<b>Content</b>	<b>Assignments</b>
Week 1	Orientation to the course Chapter 1 - Basic Math	Module 0 Self-check Quiz Syllabus Quiz Self-Check Quiz Worksheets 1-1, 1-2
Week 2	Chapter 2 - Radiation Concepts	Self Check Quiz Atom Building activity Worksheets 2-1, 2-2

Week 3	Module 1 Exam	
Week 4	Chapter 3 - Electricity	Self Check Quiz Circuit Inquiry Resistor Structure Series and Parallel Basics
Week 5	Chapter 4 - Electromagnetism	Self Check Quiz Exploring electric charges Worksheet 4-3, 4-4, 4-5
Week 6	Module 2 Exam	
Week 7	Chapters 5 - The x-ray tube	Self Check Quiz Worksheet 5-1
Week 8	Chapter 6 - The x-ray circuit	Self Check Quiz Worksheet 6-1
Week 9	Exam Module 3	X-ray Display is due
Week 10	Chapters 8 - X-ray Production	Self Check Quiz Electron Interactions Worksheet Worksheet 8-1
Week 11	Chapters 13 -X-ray Interactions	Self Check Quiz Photon Interactions Worksheet X-ray Interactions Worksheet 13-1
Week 12	Module 4 Exam	
Week 13	Chapter 21 - Computed Radiography	Self Check Quiz CR Worksheet
Week 14	Chapters 22 - Digital Radiography	Self-check quiz DR Worksheet
Week 15	Module 5 Exam	
Week 16	Final Exam	

The schedule is subject to change based on needs.