



North Central State College

MASTER SYLLABUS

2026-2027

- A. Academic Division: Health Science
- B. Discipline: Radiological Sciences
- C. Course Number and Title: RADS 2350 Radiologic Procedures 3
- D. Assistant Dean: Dr. Jason Tucker, Ph.D.
- E. Credit Hours: 2  
Lecture: 1  
Laboratory: 2
- F. Prerequisites: RADS 1251; RADS 1275; BIOL 2752  
Co-requisites: RADS 2322m
- G. Last Course/Curriculum Revision Date: Spring 2024      Origin date: Fall 2025
- H. Textbook(s) Title:

*Introduction to Radiography and Imaging Sciences and Patient Care*  
**(Purchased in RADS1170)**

- Authors: Adler and Carlton
- Copyright Year: 2026
- Edition: 9th
- ISBN #: 9780443409349

*RadTechBootCamp - Clover Learning Student Plan, electronic resource*  
**(Purchased in RADS1151)**

- Vendor: Clover Learning Inc.
- Copyright Year: 2026
- Edition: N/A
- ISBN: 9781951294038

*Merrill's Atlas of Radiographic Positioning and Procedures 3- volume Set*  
**(Purchased in RADS1151)**

- Author: Rollins, Long & Curtis
- Copyright Year: 2026
- Edition: 16th
- ISBN: 9780443120411

*Quick and Easy Medical Terminology*  
**(Purchased in RADS1151)**

- Author: Leonard
- Copyright Year: 2024
- Edition: 10<sup>th</sup>
- ISBN: 9780323883955

*Radiographic Pathology for Technologists*

**(Purchased in RADS1151)**

- Author: Kowalczyk
- Copyright Year: 2026
- Edition: 9<sup>th</sup>
- ISBN: 9780443224300

**Optional:**

*Radiographic Image Analysis*

- Authors: McQuillen-Martensen
- Copyright Year: 2024
- Edition: 6<sup>th</sup>
- ISBN #: 9780323930697

I. Workbook(s) and/or Lab Manual: To be provided by instructor.

J. Course Description: In this course pharmacology as it relates to the medical imaging field of medicine will be presented. Students will gain experience performing venipuncture and taking vital signs. Students will continue to work with the various contrast material used in radiographic imaging. Radiographic procedures of the urinary and reproductive systems will be introduced. Diseases of the respiratory, cardiac, urinary and reproductive systems will be focused upon in this course and students will learn to identify various pathologic diseases on radiographs. Laboratory exercises in an energized lab provide the student with practical application of the classroom material. Radiation protection is emphasized. Medical terminology is correlated with the content of the course. Radiographic images will be evaluated.

K. College-Wide Learning Outcomes:

<b>College-Wide Learning Outcome</b>	<b>Assessments - - How it is met &amp; When it is met</b>
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

<b>Outcomes</b>	<b>Assessments – How it is met &amp; When it is met</b>
1. Recognize common nomenclature associated with pharmacology.	Test Week 3
2. Describe the actions, indications and precautions related to various drugs as related to diagnostic radiology.	Relevant Drug Worksheet Week 2
3. Perform venipuncture using appropriate standard precautions.	Lab rubric weeks 4 and 5
4. Identify radiographic contrast agents used in diagnostic radiologic examinations.	Radiographic Exam Grid Week 5
5. Differentiate among the major adverse effects of various contrast agents.	Test Week 7
6. Recognize normal vs. abnormal EKG patterns.	Worksheet Week 7
7. Recognize the signs, symptoms and radiographic appearance of diseases associated with diagnostic medical imaging	Pathology Matrix weeks 1-3 and 5-6; Final exam
8. Simulate radiographic procedures on a person or a phantom in the laboratory setting.	Simulation rubric in lab weeks 5-7
9. Manipulate the radiographic equipment correctly for any given exam.	Simulation rubric in lab weeks 5-7
10. Demonstrate correct radiation protection practices.	Simulation rubric in lab weeks 5-7
11. Use effective oral, written and nonverbal communications skills when interacting within the radiology field.	Skills test – Week 4 Simulation rubric in lab weeks 5-7
12. Identify anatomic structures on radiographic images.	Lab exercises weeks 1-7; final exam
13. Evaluate medical images for diagnostic and technical accuracy.	Lab exercises weeks 1-7; Pathology Matrix weeks 1-3 and 5-6; final exam
14. Correlate body positioning maneuvers with the appropriate image evaluation criteria	Simulation rubric in lab weeks 5-7
15. Adapt radiographic procedures for special conditions	Simulation Rubric; Lab practice and exercises weeks 3-10, weeks 5-8

M. Recommended Grading Scale:

<b>NUMERIC</b>	<b>GRADE</b>	<b>POINTS</b>	<b>DEFINITION</b>
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00--59	F	0.00	Failure

N. College Procedures/Policies:

North Central State College believes that every student is a valued and equal member of the community.\* Every student brings different experiences to the College, and all are important in enriching academic life and developing greater understanding and appreciation of one another. Therefore, NC State College creates an inclusive culture in which students feel comfortable sharing their experiences.

Discrimination and prejudice have no place on the campus, and the College takes any complaint in this regard seriously. Students encountering aspects of the instruction that result in barriers to their sense of being included and respected should contact the instructor, assistant dean, or dean without fear of reprisal.

\* *Inclusive of race, color, religion, gender, gender identity or expression, national origin (ancestry), military status (past, present or future), disability, age (40 years or older), status as a parent during pregnancy and immediately after the birth of a child, status as a parent of a young child, status as a foster parent, genetic information, or sexual orientation*

**Important information regarding College Procedures and Policies can be found on the syllabus supplement located at**

**<https://ncstatecollege.edu/documents/President/PoliciesProcedures/PolicyManual/Final%20PDFs/14-081b.pdf>**



**North Central State College**  
**SYLLABUS ADDENDUM**

<b>Academic Division:</b> <u>Health Science</u>	<b>Discipline:</b> <u>Radiological Sciences</u>
<b>Course Coordinator:</b> <u>Dorie Ford</u>	
<b>Course Number:</b> <u>RADS 2350</u>	<b>Course Title:</b> <u>Radiologic Procedures 3</u>
<b>Semester / Session:</b> <u>Summer 2026</u>	<b>Start / End Date:</b> <u>05/26/2026-7/17/2026</u>

**Instructor Information**

<b>Name:</b> <u>Heidi Chambers</u> <u>Dorie Ford</u>	<b>Credentials:</b> <u>Heidi Chambers, BRST, R.T.(R)</u> <u>Dorie Ford, M.Ed.(R)(M)</u>
<b>Phone Number:</b> <u>419-755-4809</u>	<b>E-Mail Address:</b> <u>hchambers@ncstatecollege.edu</u>
<b>Office Location:</b> <u>HS 152</u>	<b>Office Hours:</b> _____

**I. Topical Timeline / Course Calendar (Topics and Assignments Subject to Change):**

Weeks	Topics	Assignment	Due Date
1	CN 1 Ethics and Medical Law – Patient Care Chapter 24 & 26 CN 2 Pharmacology – Patient Care Chapter 21	Note packets RTBC video lessons & quizzes Formulation of Drug List No lab	5/26/26 5/26/26
2	CN 3 Drug Administration – Patient Care Chapter 22 CN 4 Contrast Agents – Patient Care Chapter 23	Note packets RTBC video lessons & quizzes Formulation of Drug List <b>Test 1: CN 1</b>	6/1/26 6/1/26 6/1/26 6/1/26
3	CN 5 Venipuncture – Merrill’s Volume 3 Chapter 16 CN 6 Basic Cardiac Monitoring – Patient Care Chapter 26  Vital Signs & Medical Emergencies – Patient Care Chapter 15 & 20	Note packets RTBC video lessons & quizzes EKG strips – lab  Class Notes from RADS 1170 Vital signs practice – lab <b>Test 2: CN 2, CN 3, CN 4</b>	6/8/26 6/8/26 6/8/26  6/8/26 6/8/26
4	CN 7 Aseptic Technique - Chapter 18 CN 8 Arthrogram – Merrill’s Volume 3 Chapter 13 CN 9 Myelogram – Merrill’s Volume 3 Chapter 14  Infection Control	Note packets RTBC video lessons & quizzes Arthrogram Myelogram/Lumbar puncture Sterile Tray Procedures Sterile Glove Technique Draping the C-arm  Class notes from RADS 1170 <b>Test 3: CN 5 &amp; CN 6</b>	6/15/26 6/15/26  6/15/26 6/15/26 6/15/26  6/15/26
5	Infection Control  CN 10 Genitourinary; Cystogram voiding and non-voiding; Retrograde Urogram – Merrill’s Volume 3 Chapter 16 CN 11 Hysterosalpingogram – Merrill’s Volume 3 Chapter 17	Donning and Doffing PPE – lab Vital signs simulation – lab  Note Packets	6/22/26 6/22/26  6/22/26

Course Number: \_\_\_\_\_  
Semester / Session: \_\_\_\_\_

Course Title: \_\_\_\_\_  
Start / End Date: \_\_\_\_\_

Weeks	Topics	Assignment	Due Date
6	CN 12 Non-Aseptic Technique – Chapter 19	Hysterosalpingogram Cystogram, voiding cystogram Portable Abdomen Practice  <b>Test 4: CN 7, CN 8, CN 9</b>	6/29/26   6/29/26
7	Non-Aseptic Technique  Final Review	Portable Abdomen Simulation CN 12 quiz – lab  <b>Test 5: CN 10 &amp; CN 11</b>	7/6/26 7/6/26 7/6/26
8	Clinical Final Final Exam Program Orientation		7/14/26 Tues. 7/15/26-Wed. 7/16/26-Thurs.

### Asynchronous Lab Timeline

Weeks	Topics	Assignment	Due Date
1	Intro to Asynchronized Lab Introduction to Fractures-Pathology Text Chapter 12	Video and Notes	5/29/26
2	Fractures-Pathology Chapter 12	Video and Notes, Graded Quiz	6/3/26
3	Fractures-Pathology Chapter 12	Video and Notes, Graded Quiz	6/10/26
4	Respiratory-Anatomy and Imaging- Respiratory- Review of Procedures-	Video and Notes Reading Assignment	6/17/26
5	Congenital/Hereditary Diseases Pathology Chapter 3 Inflammatory Diseases COVID	Video-Notes, Graded Quiz Video and Notes and Graded Quiz Reading Assignment	6/24/26
6	Chronic Obstructive Pulmonary Diseases- Pathology Chapter 3 Pneumoconiosis Pleural Effusion Neoplasms	Video-Notes and Graded Quiz Video-Notes and Graded Quiz Video-Notes and Graded Quiz Video-Notes and Graded Quiz	7/1/26
7	Trauma of the Chest- Pathology Chapter 12 Picc Lines, Vascular Access Lines and Chest Tubes	Video-Notes and Graded Quiz Video-Notes and Graded Quiz	7/8/26
8	Comprehensive Final	Final	7/15/26

## II. Grading and Testing Guidelines:

Final Grade Calculation

Activity	Qty	Points	Percentage
Exams	5	Varies per unit	60%
Final Exams	1		20%
Other graded items			10%
• Note packet assignments	12	20	
• Attendance	8	10	
Lab			10%
• Vital Signs Simulation	1	40	
• Portable Abdomen Simulation	1	30	
• Skills sign offs	5	5	
• Attendance	7	5	
• Video Note Assignments	12	10	
• Graded Quizzes	8	10	
• Reading Assignment	2	8	

Course Number: \_\_\_\_\_  
Semester / Session: \_\_\_\_\_

Course Title: \_\_\_\_\_  
Start / End Date: \_\_\_\_\_

**Note: Minimum Course Grade**

The Radiological Department believes that a grade below C+ indicates a lack of mastery of essential skills. Therefore, any student who receives less than C+ in any Radiological Science sequence course cannot continue in the Radiology Program.

**III. Class Attendance, Lab Attendance and Homework Make-Up Policy:**

1. **Class Attendance Requirements:** Students are expected to attend ALL scheduled live online Zoom lectures, which are necessary to acquire the knowledge required to be successful in the course. Classes will meet once a week with a link to the class provided in the Canvas course.
2. **Class Attendance Grading:** Attendance is recorded and factored into the final course grade.
  - a. **Present:** Joining the session at or before the scheduled start time and remaining until the scheduled end time and returning from scheduled breaks on time (10 points).
  - b. **Late:** Joining the session one minute after the scheduled start time OR leaving the session one before the scheduled end time OR returning one minute after scheduled break times (5 points).
  - c. **Absent:** Joining the session 15 minutes or more after the scheduled start time; leaving 15 minutes or more before the scheduled end time; returning 15 minutes or more from scheduled breaks OR not returning after scheduled breaks/exams. (0 points).
3. **Lab Attendance Requirements:** Students are expected to attend ALL scheduled labs which is necessary for hands on skills application of class material. Labs will meet once a week, in person and on campus. Students are also expected to wear properly fitted lab attire (black scrub top with undershirt and black scrub pants)
4. **Lab Attendance Grading:** Attendance along with proper lab attire is recorded and factored into the final course grade.
  - a. **Present and Properly Dressed:** Arriving to lab at or before the scheduled start time, remaining until the scheduled end time, and wearing proper lab attire. (5 points).
  - b. **Late and/or Not Properly Dressed:** Arriving to lab one minute after the scheduled start time, leaving before the scheduled end time OR not wearing the proper lab attire. (2.5 points).
  - c. **Absent:** Unexcused absence, arriving 15 minutes or more after the scheduled start time, OR leaving 15 minutes or more before the scheduled end time. (0 points).
5. **Notification Requirements:** In any circumstance where a student will miss an online class or in-person lab, the student must send a message to the instructor through Canvas **prior** to the start of the class or lab. If a student is absent from the online class due to illness, the student is not permitted to attend lab for that day. If the student is absent from the online class without notification to the instructor, the student is not permitted to attend lab for that day.
6. **Excused Absences:** The reasons for which a student may be excused from class or lab without a deduction are as follows:
  - a. Hospitalization (with documented verification)
  - b. Death in the immediate family (with documented verification)
  - c. Personal illness or illness in immediate family - (doctor's excuse required).
7. **Technical Difficulties:** Technical issues should be communicated to the instructor as soon as possible, preferably before class via Canvas message or email. However, technical issues will not be accepted as an excused reason for tardiness or absence. Students experiencing persistent issues should contact the IT help desk immediately at [helpdesk@ncstatecollege.edu](mailto:helpdesk@ncstatecollege.edu) or 419-755-4737.
8. **Attendance Make-Up Policy:** students marked absent or late are not eligible for full participation points for that session or lab. Recoded sessions (when available) do not substitute for attendance and participation.
9. **Homework and Other Assignments:**
  - a. Completed, on time submissions receive full credit only when submitted by the due date and time.

Course Number: \_\_\_\_\_  
Semester / Session: \_\_\_\_\_

Course Title: \_\_\_\_\_  
Start / End Date: \_\_\_\_\_

- b. Late assignments receive a 50% deduction.
- c. Submissions one minute past the due date and time are considered late.
- d. Assignments are accepted up to 7 days after the original due date for partial credit
- e. Assignment submission after 7 days will receive a score of zero (0).
- f. Missing assignments will receive a score of zero (0).
- g. Technology issues are not an excuse for late submission and are subject to the late assignment deduction.
- h. It is the student's responsibility to follow submission due dates and times.

10. **Academic Integrity:** All homework assignments, presentations, written assignments and projects must reflect the student's own work. Copying other students work or using AI tools (i.e., Chat GPT or other generative AI software) to complete an assignment is prohibited. AI tools may only be used when explicitly stated by the instructor for specific assignments. Work found to be completed by copying or with unauthorized AI assistance will be considered a violation of academic integrity and may be subjected to disciplinary actions and/or the college's misconduct process.

#### IV. Examination Policy:

1. **Test Attendance Requirements:** Students must attend class when tests, oral presentations, and written assignments are scheduled. If the student does not attend class on these days the following deductions will be applied:
  - 1<sup>st</sup> missed test → 5% deduction from the earned score
  - 2<sup>nd</sup> missed test → 10% deduction from the earned score
  - 3<sup>rd</sup> missed test → 20% deduction from the earned score
  - Additional missed tests → result in a zero score
2. **Late Arrival:** A student who arrives late to class for a test for any reason may not be permitted to take the test at that time. The test will be treated as a make-up exam with appropriate deduction from the earned score:
  - Late arrival for any exam → 5% deduction from the earned score
3. **Excused Absences:** The reasons for which a student may be excused from taking an examination, oral presentations, and assignments and not receive a deduction in score are as follows:
  - Hospitalization (with documented verification)
  - Death in the immediate family (with documented verification)
  - Personal illness or illness in immediate family - (doctor's excuse required).
4. **Make Up Exam Procedure:** Any student who misses an examination (for any reason) is responsible for contacting the instructor prior to the start of class or examination through Canvas to let the instructor know the reason of absence and schedule the make-up test. Make-up exams are scheduled as close as possible to the missed test date and should occur no later than one week from the missed exam. In cases of **extreme** illness or hospitalization contact should be made no later than 24 hours from the date of absence. If the student does not contact the instructor within the allotted time, the student may be subjected to a zero on the examination. The instructor will not "chase down" the student to reschedule.
5. No makeup opportunity will be given for absences of unscheduled quizzes (pop quizzes).
6. **Exam Administration:** Exams are administered via the Canvas course and are proctored over Zoom. The student must use two devices (phone and computer) while faculty proctor the examination. Each exam creates a real-time log of the student's activities while in the exam. Navigation away from the exam tab during the examination is not permitted for any reason. Exam logs are randomly checked by faculty after each test. Any student who navigates one time from the exam will receive a zero and a written warning. If a student navigates from the exam more than once, the student will receive a zero on the test and subjected to the college's academic misconduct process.
7. **Academic Support:** Any student who scores below a 77% on any examination is **required** to schedule a one on one meeting with the instructor to identify knowledge gaps of the material where tutoring may be mandated. Students who fail to schedule this required meeting will receive a 10% deduction from their final score until the meeting has been scheduled and attended. The meeting should be scheduled as close as possible post examination. The student should not view this as punishment but as a benefit to be as successful as they can be in the program.

#### V. Classroom Expectations:

Course Number: \_\_\_\_\_  
Semester / Session: \_\_\_\_\_

Course Title: \_\_\_\_\_  
Start / End Date: \_\_\_\_\_

1. **Hybrid Course Delivery Guidelines:** Since this is a hybrid course, part of the course content is delivered outside of the classroom and in your home. It is expected that you have a designated learning space in your home or other outside classroom accommodations. **This space should be free of distractions (i.e., pets, children, siblings, parents, significant others, music, and television). You will not be permitted to attend to these distractors during class or during at test.** In this space, you will have adequate lighting, an area to sit upright, all electronic devices needed, textbooks, and note assignments.
2. **Zoom Lectures:**  
During online class lectures, the student will:
  - Be appropriately dressed, sitting upright (preferably at a table or desk), with the camera on unless otherwise instructed
  - Take care of personal needs (restroom) prior to the beginning of the class
  - Remove all distractors from the Zoom area
  - Mute your mic, unless answering or asking questions
  - Use the raise hand feature to ask questions or get the instructors attention
  - Complete the required weekly content prior to class (i.e., reading assignments, homework assignments)
  - Be prepared to participate in class (ask and answer questions)
  - Have the required material on hand at the time of class (i.e., note packets, textbooks, etc.)
  - Review the day's material or complete other assignments as the student waits for others to finish a test or in class assignment
  - Stay on task when given in class activities and group assignments
3. Demonstrate professional oral and written communication (emails, class discussion, group activities)
4. Unless otherwise instructed, cell phone use is not permitted in hybrid courses or in person labs. If a student has their cellphone out distracting others or the instructor, the student will pay a donation of \$1.00 to the Robert L. Garber scholarship fund. Examples (but not a complete list) of cell phone distractors are as follows:
  - Texting
  - Cell phone ringing or vibrating loudly
  - Answering and conversing over the phone
  - Watching videos
5. Treat classmates and instructors with respect at all times
  - Actively listen when others speak
  - Do not interrupt others; allow all students a chance to speak
  - Challenge ideas, not people
  - Value differences as strengths
  - Disruptive behavior will not be tolerated
6. Use course resources wisely. Examples include:
  - Assigned reading material, recorded lectures, notes, worksheets and power points
  - Practice quizzes and review of prior exams
  - Rad Tech Boot Camp (RTBC)
  - Class discussion and group activities
  - Tutoring