A. **Academic Division:** Health Sciences

B. **Discipline:** Radiological Science

C. **Course Number and Title:** RADS1140 Radiologic Procedures/Seminar 1

D. **Course Coordinator:** Dorie Ford R.T. (R) (M), BSPA, M. Ed.
   **Assistant Dean:** Melinda Roepke, MSN, RN

**Instructor Information:**
- **Name:** Click here to enter text.
- **Office Location:** Click here to enter text.
- **Office Hours:** Click here to enter text.
- **Phone Number:** Click here to enter text.
- **E-Mail Address** Click here to enter text.

E. **Credit Hours:** 3
   - Lecture: 1
   - Seminar: 1
   - Laboratory: 3

F. **Prerequisites:** None
   **Co-Requisites:** RADS1120 (m)

G. **Syllabus Effective Date:** Fall, 2017

H. **Textbook(s) Title:**
   - *Merrill’s Atlas of Radiographic Positioning and Radiologic Procedures 3- volume Set*
     - **Author:** Long, Rollins, & Smith
     - **Copyright Year:** 2015
     - **Edition:** 13th
     - **ISBN #:** 9780323263412
   - *Quick and Easy Medical Terminology*
     - **Author:** Leonard
     - **Copyright Year:** 2017
     - **Edition:** 8th
     - **ISBN #:** 9780323359207
   - *Introduction to Radiologic Sciences and Patient Care*
     - **Author:** Carlton-Adler
     - **Copyright Year:** 2016
     - **Edition:** 6th
     - **ISBN #:** 9780323340748

I. **Workbook(s) and/or Lab Manual:**
J. **Course Description:** This course will provide an introduction to the basic steps in completion of a radiographic examination from the beginning of the procedure to the end of the procedure. Radiographic procedures of the chest, abdomen, and appendicular skeleton will be presented. Mobile X-ray procedures and surgical X-ray procedures will be introduced. The students will develop an understanding of how to use age-appropriate communication in the clinical setting. 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. A one-hour seminar will cover various clinical topics.

K. **College-Wide Learning Outcomes:**

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

L. **Course Outcomes and Assessment Methods:**

Upon successful completion of this course, the student shall:

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Assessments – How it is met &amp; When it is met</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Position the body for radiographic procedures of the chest, abdomen, upper and lower limb on a person or phantom in a laboratory setting.</td>
<td>lab exercises and lab simulations weeks 3-6, 7-9, 10-13</td>
</tr>
<tr>
<td>2. Manipulate the radiographic equipment correctly for radiographic procedures of the chest, abdomen, upper and lower limb.</td>
<td>lab exercises and lab simulations weeks 3-6, 7-9, 10-13</td>
</tr>
<tr>
<td>3. Demonstrate correct radiation protection practices.</td>
<td>lab exercises and lab simulations weeks 3-6, 7-9, 10-13</td>
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<td>4. Use appropriate and effective oral, written and nonverbal communications.</td>
<td>Medical Terminology test week 12, lab exercises and lab simulations weeks 3-6, 7-9, 10-13, class exams weeks 5,8, and 15, age-appropriate communication class presentation and discussion, seminar discussions</td>
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<tr>
<td>5. Identify anatomic structures demonstrated on radiographic images.</td>
<td>Anatomy worksheets week 3, 5, 9, image evaluation group activities weeks 3-4, 6-7, and 12, on-line modules weeks 4, 5, 7, 11, class exams weeks 5,8 and 15</td>
</tr>
<tr>
<td>6. Evaluate medical images for positioning, centering, appropriate anatomy and technical accuracy.</td>
<td>Anatomy worksheets week 3 and 10, image evaluation group activities weeks 3-4, 6-7, on-line modules weeks 4, 5, 7, 11 class exams weeks 5,8 and 15</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Assessments – How it is met &amp; When it is met</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
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<tr>
<td>7. Determine the cause-and-effect relationship between positioning the</td>
<td>lab exercises and lab simulations weeks 3-6, 7-9, 10-13, cause-and-effect group</td>
</tr>
<tr>
<td>body and achieving the required outcome on the completed image.</td>
<td>activities week 11, class exams weeks 5, 8 and 15, online modules weeks 4, 5, 7, 11</td>
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<tr>
<td></td>
<td>final exam week 16</td>
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<tr>
<td>8. Adapt radiographic procedures for special conditions</td>
<td>Lower limb case study rubric week 12, case study round robin class activity week</td>
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<td></td>
<td>12, age-appropriate communication class presentation and discussion, seminar</td>
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<td></td>
<td>discussions lab exercises week 12 and 13.</td>
</tr>
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</table>

M. **Topical Timeline (Subject to Change):**

**Week 1**
- Introduction to the Course
- Preliminary steps in radiology
  - Seminar topic: Clinical Policies and Procedures (weeks 1-3)

**Week 2**
- Preliminary steps in radiology continued

**Week 3**
- General anatomy and radiographic positioning terms

**Week 4**
- Chest radiography
  - Seminar topic: Health Care Environment (weeks 4-7)

**Week 5**
- Abdominal radiography

**Week 6**
- Anatomy of the upper limb
- Finger/hand/wrist radiography

**Week 7**
- Forearm/elbow/humerus radiography

**Week 8**
- Introduction to mobile imaging
- Overview of correct lead marker placement
  - Seminar topic: Professionalism (weeks 8-11)

**Week 9**
- Lower Limb Anatomy

**Week 10**
- Foot/toe radiography

**Week 11**
- Ankle/calcaneus radiography

**Week 12**
- Knee/patella/femur radiography
- Long bone radiography
  - Seminar topic: Age-appropriate communication (weeks 12-15)

**Week 13**
- Lower limb case study

**Week 14**
- Introduction to surgery

**Week 15**
- Review for Final Exam

**Week 16**
- Final Exam
N. **Course Assignments:**

- Lecture/PowerPoint presentations
- Lecture note outlines
- Student worksheets/homework
- Small group activities
- Class discussions
- Lab simulations and exercises
- Role playing
- Supervised practice in the college lab
- Independent practice in the college lab
- Computer assisted instruction (Evolve modules, radiography essentials)
- Written assignments
- Canvas utilization for instruction and communication
- Assigned readings
- Review of medical images

O. **Recommended Grading Scale:**

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

P. **Grading and Testing Guidelines:**

- Exams: 65% of grade
- Lab: 15% of grade
- Homework: 15% of grade
- Participation: 5% of grade

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

Q. **Examination Policy:**

Students will receive a detailed course calendar. Class exams and lab simulations will be scheduled on the course calendar.

**Policy for a missed test or oral or written presentation:**

A student will receive a zero for a missed test or an oral or written assignment if the student has not contacted the instructor prior to the event. Contact may be made through a phone call to the office (may leave message)
or through an e-mail to dford@ncstatecollege.edu. **A follow up message will occur later that same day from the instructor to the student’s ncstate e-mail address informing the student about make up testing, lab and/or homework. The instructor will not call the student to arrange make up.**

In addition, student absences on test days are tracked. For each test in the course that a student misses the following deductions are taken assuming the student has notified the instructor prior to the test.

<table>
<thead>
<tr>
<th>Event</th>
<th>Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st missed test</td>
<td>No deduction from score</td>
</tr>
<tr>
<td>2nd missed test</td>
<td>Minus 5% from earned score</td>
</tr>
<tr>
<td>3rd missed test</td>
<td>Minus 8% from earned score</td>
</tr>
<tr>
<td>Additional</td>
<td>Zero</td>
</tr>
</tbody>
</table>

Depending on the type of test missed and the time constraints students will make-up tests either in the Health Science Building or in the Make-Up Proctoring Service offered by the college in Kee Hall.

### Lab Grading Policy

There is a close correlation between lab performance and clinical performance. When a student successfully completes a lab simulation it demonstrates that the student is ready to perform the procedure on a patient at the clinical site.

When a lab simulation is scheduled in the lab, students are expected to come to lab prepared to perform the lab simulation. A student must receive **80% (24/30)** or higher to pass a lab simulation. When a student fails a lab simulation these assumptions can be made:

1. The student did not prepare for the lab simulation in advance by reviewing and practicing
   - OR –
2. The student has weaknesses that must be identified and corrected so that these weaknesses do not degrade clinical performance.

Students who do not pass a lab simulation will be required to perform a repeat simulation. On a repeat simulation 10% will automatically be deducted from the final score. Students must pass the repeat simulation with **80% (24/30) after the 10% deduction.** If the student fails the repeat simulation, the student will receive a zero for that simulation but will be required to simulate until the student has demonstrated satisfactory skills on the exam. Additional make up labs will be scheduled by the instructor to accommodate repeat simulations.

### R. Class Attendance and Homework Make-Up Policy:

Most classes include homework assignments. If a student misses a class, it is the student’s responsibility to find out from the instructor what the homework assignment was and to obtain homework papers if applicable. Students are given full credit for homework only if it is completed and in class on time. If a student would like partial credit for homework it is the student’s responsibility to present the finished homework to the instructor in the next class. The instructor will not chase down or ask for missed homework. A zero is assigned for all missing homework.

### Lab Attendance and Practice Expectations

Students are required to attend their assigned lab each week. If a student misses an assigned lab, he/she is required to attend another lab the same week or two labs the following week to stay current with practicing and simulating the material. Arrangements with the instructor must be made in advance.

It is the responsibility of the student to master the skills that are necessary to successfully complete the assigned simulations. This usually means that the student will need to come in to the radiology lab outside
of their scheduled lab times to gain additional practice. Students may spend additional time practicing in
the labs on weekdays until 6:45 PM and weekends from 12:00 – 4:00 PM

S. Classroom Expectations:

Look at the course calendar and read assigned material before class to have a general understanding of
the information presented.

Read lab assignments prior to lab. Know the material before coming to lab to avoid having to read the
material during lab when hands-on practicing should occur.

Complete homework on time.

Come to class with the required material: textbooks, class notes, workbooks, notebooks, homework,
assignments, etc.

Participate in class discussions, ask and answer questions.

Demonstrate professional behavior and use language appropriate for classroom learning experience.

Stay on task when given in-class activities and group assignments. If a group finished early the members
should read and review material presented in class, update class notes or any other educational activity. Ask
the instructor if there are any questions.

Treat other class members with respect at all times.

Cell phone use is not permitted during class unless the instructor asks you to use your cell phone for learning
activities. Any student’s cell phone that rings, vibrates loudly, or is used for texting during class will result
in a $1.00 fine from that student. Monies collected from cell phone fines will be donated to the Robert L.
Garber Scholarship for radiology students.

Policy on Social Media

All course material (lectures, slides, documents, worksheets, tests, lab activities, and all other material from
this course and on Evolve) is presented with a non-written copyright which prohibits students from using
the material without the instructor’s permission. Students are not permitted to post course material or take
pictures of lab procedures and post the information on ANY webpage or social media device. The use of
the faculty name or course name is prohibited.

T. College Procedures/Policies:

Attendance Requirements: All students are required to attend all scheduled classes and examinations.
Each faculty member has the right to establish regulations regarding attendance that he/she considers
necessary for successful study.

Students who do not attend classes may be administratively withdrawn from those classes. However,
failure to attend classes does not constitute withdrawal, and students are expected to process a formal
withdrawal through the Student Records Office in Kee Hall.

Student engagement requirements: Student engagement is based on the “active pursuit” of learning which can be measured by class
attendance, class participation (in class or online), taking required quizzes/examinations, and submission of
work assignments or papers. Student engagement consists of a student attending at least 60% of the class sessions (there should be attendance throughout the term) and/or completing 75% of the assignments listed on the syllabus at the midpoint in the term. Exceptions can be made when there is on-going communication between the student and faculty member. The communication must be documented and the faculty member and student must be in agreement regarding the exception. Students not meeting the expectation will be administratively withdrawn from class. If a student believes he/she was administratively withdrawn in error, he/she may file an appeal. Being administratively withdrawn may have program and financial aid implications.

**Academic Misconduct** is any activity that tends to compromise the academic integrity of the college, or subvert the educational process. Examples of academic misconduct include, but are not limited to:

1. **Violation of course or program rules** as contained in the course syllabus or other information provided to the student; violation of program requirements as established by departments and made available to students.

2. **Plagiarism** including, but not limited to, submitting, without appropriate acknowledgment, any written, visual or oral material that has been copied in whole or in part from the work of others (whether such source is published or not) even if the material is completely paraphrased in one’s own words. This includes another individual’s academic composition, compilation, or other product, or a commercially prepared paper. Plagiarism also includes submitting work in which portions were substantially produced by someone acting as a tutor or editor.

   Such practices constitute plagiarism regardless of motive. Those who deny deceitful intent, claim not to have known that the act constituted plagiarism, or maintain that what they did was inadvertent are nevertheless subject to penalties when plagiarism has been confirmed.

3. **Cheating** and dishonest practices in connection with examinations, papers and projects, including but not limited to using unauthorized notes, study aids or information on an examination; obtaining help from another student during an examination; taking an exam or doing work for another student; providing one’s own work for another student to copy and submit as his/her own; or allowing another student to do one’s work and then submitting the work as one’s own. Also included would be altering a graded work after it has been returned, then submitting the work for re-grading; or submitting identical or similar papers for credit in more than one course without prior permission from the course instructors.

4. **Fabrication** including but not limited to falsifying or inventing any information, data or citation; presenting data that were not gathered in accordance with defined appropriate guidelines, and failing to include an accurate account of the method by which data were collected.

5. **Obtaining an Unfair Advantage** including, but not limited to stealing, reproducing, circulating, or otherwise gaining access to examination materials prior to the time authorized by the instructor; unauthorized collaborating on an academic assignment; taking, hiding or altering resource material; or undertaking any activity with the purpose of creating or obtaining an unfair advantage over another student’s academic work.

6. **Aiding and Abetting Academic Dishonesty** including, but not limited to providing material, information or other assistance to another person with the knowledge that such aid could be used in any of the violations stated above, or providing false information in connection with any inquiry regarding academic integrity.

7. **Alteration of Grades or Marks** including but not limited to, action by the student in an effort to change the earned credit or grade.

In addition, cases of academic dishonesty may involve photocopied materials. Materials used may fall under the Copyright Act. Violations of said Act may subject the user and/or the College to sanctions.
**Statement on Disabilities:** Any student who requires reasonable accommodations related to a disability should inform the course instructor and the Coordinator of Specialized Services (Room 138 in Kee Hall; phone 419-755-4727).

Students who encounter difficulty in any of their courses are encouraged to visit the Tutoring Resource Center (Room 119 in Fallerius Technical Education Center) for tutoring assistance, and the Student Success Center (Room 136 in Kee Hall) for academic assistance, advising services, referrals for personal counseling and Learning Disability (LD) Testing.

**Statement on Withdrawals:** As a student, you are expected to attend class. If you are unable or choose not to attend class, or if for whatever reason you are unable to keep up with the requirements of a course, you need to officially drop the class at the Student Records Office. Refund dates and withdrawal dates will vary slightly from term to term. Contact the Student Records Office for applicable dates. Additionally these dates are posted on the academic calendar available on the college’s website, [www.ncstatecollege.edu](http://www.ncstatecollege.edu), under the Academics heading on the home page and are available at the Student Records Office in Kee Hall. Students should go to the Student Records Office (Room 142 in Kee Hall) to process their withdrawal from any class.

If you choose to walk away from your class without officially withdrawing from it, the faculty member teaching the class must grade your classroom performance on the material available to him or her. This normally results in an "F" grade. An "F" grade can lower your grade point average considerably depending on the total credits accumulated.