Course Number: RADS 5553  3 Credits

Course Title: RA Procedures V (Clinical Pathways)

Prerequisites: RA Procedures I, II, III, IV

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Course Overview:

This course prepares the radiologist assistant for clinical procedures involving selected imaging modalities.

Course Objectives: Upon completion of this course, a student will be able to:

- Describe appropriate clinical pathways using medical imaging modalities.
- Complete class project.
- Generate online "image observations."
- Radiographically identify common pathologies demonstrated on various images.
- Complete independent study modules such as: pharmacology & MRI.
- Review for ARRT RRA Certification Exam.
Textbooks:

All Previous Textbooks and Other Class Resources
Required:
   Nursing Pharmacology Made Incredibly Easy!   Lippincott Williams & Wilkins; (CD-ROM)(1st Ed) Already obtained

Recommended:
   Nursing Pharmacology Made Incredibly Easy!   Lippincott Williams & Wilkins; 2nd Ed
ISBN: 9780781792899

The student must return the CD-ROM back to the university on the last weekend of classes December 3-6.

Methodology / Teaching Strategies:

Independent reading assignments, written assignments, Internet searches, online quizzes, classroom discussion, clinical laboratory skills, online discussions, and presentations are used in this course.

Special Needs:

In accordance with Section 504 of the Federal Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Midwestern State University endeavors to make reasonable adjustments in its policies, practices, services, and facilities to ensure equal opportunity for qualified persons with disabilities to participate in all educational programs and activities.

The Office of Disability Services (ODS) provides information and assistance, arranges accommodations, and serves as a liaison for students, instructors, and staff. The ODS has assistive devices such as books on tape, recorders, and adaptive software which can be loaned to qualified individuals. A student/employee who seeks accommodations on the basis of disability must register with the Office of Disability Services in the Counseling Center, Clark Student Center Room 108. Documentation of disability from a competent professional is required.

Individuals with grievances related to discrimination or lack of accommodation on the basis of a disability are encouraged to resolve the problem directly with the area involved. If the matter remains unresolved, advice and/or assistance will be provided by the Office of Disability Services for resolution. The grievance procedure may be found in the Student Handbook and Activities Calendar.

The director of the Counseling Center services as the ADA Coordinator may be contacted at (940) 397-4618, TDD (940) 397-4515, or 3410 Taft Blvd., Clark Student Center Room 108.

Attendance:

This is a hybrid distance education course. Because of the unique distance learning format for this program, students must be present for both on-campus seminars to receive a passing grade. There are no exceptions to this policy.
Students must also be vigilant in checking email and logging onto Blackboard to insure that messages from the instructor are received in a timely manner.

**Grading / Evaluation:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Class Participation</td>
<td>10%</td>
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<tr>
<td>Project</td>
<td>15%</td>
</tr>
<tr>
<td>Modules</td>
<td>25%</td>
</tr>
<tr>
<td>In-Class Image Review</td>
<td>25%</td>
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<tr>
<td>Practice Certification Exam</td>
<td>25%</td>
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</table>

A = 90 = 100  
B = 80 – 89  
C = 70 – 79  
D = 60 – 69  
F = Below 60

The last opportunity to drop this course with a grade of “W” is 4:00 pm October 18, 2010. Refer to the Undergraduate Bulletin for details about receiving a grade of “Incomplete” in a course. In an emergency or extenuating circumstance, a student may request a grade of “Incomplete” in a course before grades are submitted. If the instructor grants the “Incomplete,” the student has until thirty (30) days after the beginning of the next long semester to complete the course requirements. If the student does not complete the course requirements within the deadline, the grade of “Incomplete” will automatically convert into a grade of “F.”

**Conduct / Honesty / Honor System:**

RADS 5553 adheres to the MSU code of Conduct. In particular, academic dishonesty, however small, creates a breach in academic integrity. A student's participation in this course comes with the expectation that his/her work will be completed in full observance of the MSU code of Student Conduct. A student should consult the Student Handbook for answers to any questions about the code.

Students are encouraged to take full advantage of many resources available including Internet sites, handouts, other textbooks and journals, faculty, and peers. This interactive collegial learning environment is conducive to life-long learning.

Specific components of RADS 5553 are designed to represent the efforts of each student individually and are NOT to be shared. These components include the written assignments submitted for a grade. When students submit their efforts for grading, they are attesting they abided by this rule. Quizzes and exams are not to be copied in any form or shared in any form. Students caught engaging in such activity will receive an F for the course and be referred to University administration for dismissal.

*By enrolling in this course, the student expressly grants MSU a “limited right” in all intellectual property created by the student for the purpose of this course. The “limited right” shall include but shall not be limited to the right to reproduce the student's work product in order to verify originality and authenticity, and for educational purposes.*
Communication with Instructor:

Contact information for the instructor is listed at the beginning of this syllabus. Email is the preferred mode of communication. It is critical that students report all email changes immediately to the instructor. The instructor will respond or at least acknowledge email messages from students within a maximum of five (5) business days when MSU is in session. Beyond standard university holidays and breaks, the instructor will notify students of any extended periods of time when email contact is not practical (professional meetings, etc).

CLASS ACTIVITIES AND ASSIGNMENTS

Students can proceed through the course content at their own pace within the boundaries set by the Course Schedule and the MSU Academic Calendar. Quizzes may not be posted until the due dates. See the Course Schedule for specific information about activities and due dates.

Participation – 10%

Students must participate in class activities, projects, and discussions. Students complete most course requirements by working independently from the instructor and classmates. Evidence of class participation includes: responding to emails, taking quizzes and the final exam on or before the scheduled deadlines, and submitting the assignments in a timely manner.

Projects – 15%

Students will generate two (2) self-contained content modules. The modules should be written as Word documents and include text content and graphics with references to sources and Internet links where appropriate. The length of the modules will vary based on the topics, but the depth of the modules should cover the ARRT RRA Exam content specifications (available on the ARRT website). The modules should also include 5 – 10 multiple choice questions with a key. The modules should be submitted as Word document email attachments by the due date on the chart at the end of the syllabus.

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<thead>
<tr>
<th>XX</th>
<th>Lab Values</th>
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<tbody>
<tr>
<td></td>
<td>Which tests for specific clinical symptoms? Normal Ranges? Significance of out-of-normal range values?</td>
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<table>
<thead>
<tr>
<th>XX</th>
<th>Cardiac &amp; EKG</th>
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<thead>
<tr>
<th>XX</th>
<th>Radiation Biology</th>
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<tbody>
<tr>
<td></td>
<td>Stochastic? Radiosensitivities? Units of radiation measurement? Interactions with tissue? Types of scatter?</td>
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<tr>
<th>XX</th>
<th>Medicolegal Issues/Medical Records/ Regulatory</th>
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<tbody>
<tr>
<td></td>
<td>Tort Laws and Malpractice. Standard of care, Assault and Battery, Informed Consent, HIPAA etc.</td>
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</tbody>
</table>
Radiation Safety

Equipment considerations including fluoroscopic and cine equipment design including image intensifier size, etc, dose curves, agencies, grid ratios

### Modules – 25%

#### Pharmacology Module

Students will review the Pharmacology CD and submit evidence of **four (4) CD-based quizzes** of twenty five (25) items, each with a score of 80% or higher. Students may select any of the games (Endless Lecture, Tedious Textbook Torture, or Problem Patient) to deliver the questions. The quizzes should be generated from the following content sections on the CD, one quiz for each section:

- Fundamentals of Pharmacology
- Cardiopulmonary Drugs
- Gastrointestinal Drugs
- Anti-infective / Anti-inflammatory Drugs

The four (4) quiz summary reports may be screen-captured and sent as email attachments or printed, signed, and faxed to the instructor by the due date on the chart at the end of the syllabus.

Students will also review the pharmacology module posted on the Blackboard course site and take the **Blackboard Pharmacology Exam** by the due date.

#### MRI Module

Students will review the PPT on Blackboard, and any other pertinent available materials such as chapters 48, 49, and 50 in Brant and Helms (3rd edition) in preparation for taking an online open book **Blackboard MRI Exam** by the due date on the chart at the end of the syllabus.

#### Online Case Evaluation

Students will review the online case on Blackboard. Students will respond to procedure and patient management questions as well as submit their “initial observations” of the images. The assignments will be submitted as email attachments to the instructor using forms available as a Microsoft Word link on Blackboard.

#### In-Class Image Review – 25%

Students will participate in a “hot seat” for image observation during seminar classes. Various faculty members will display randomly selected images and the students will describe what they observe on those images. Radiographs may cover any procedures as a review for the certification exam.

**By this time in the RA curriculum, students MUST demonstrate competence during in-class image reviews. Students who perform at lower than a grade level of B on the image review will have to repeat the image review. The online repeat image review will be proctored and timed. Students who do not achieve a minimum of grade level B on the repeated review, will not successfully complete this course, and consequently, can not continue in the RA program.**
Practice RA Certification Exam - 25%

One two hour proctored closed-book practice certification exam will be administered using Blackboard. The exam will consist of:

Multiple Choice Questions
- Patient Communication, Assessment, & Management 15
- Radiologic Procedures (Fluro, Radiology, CT, MR) 7
- Radiation Safety, Radiation Biology, & Fluoro 5
- Drugs & Contrast 5
- Medico Legal, Professional, Gov’t Standards 3
- Anatomy, Physiology, & Pathophysiology 15

Discussion Questions
- Case Study 1
- Ethics 1

Each student must have a proctor and test site approved by the course instructor. Typically acceptable proctor sites and candidates include:

C College or University Testing Centers
C Texas Computer-based Testing Collaborative (In Texas Only) (www.tcbtc.org/locations.html)
C Officials at military base education offices

The exam site must have reliable Internet connections and should have at least two Internet browsers available (Netscape Navigator and Microsoft Explorer). Sites with extensive firewalls and high security mechanisms may not work for testing. Please test to be sure you can connect to Blackboard before committing to a proctor site. High speed connections are more desirable than traditional phone line connections. The site must support an independent phone line in addition to the computer connection so that calls can be made while the student is connected online. The proctor must have moderate computer expertise including the ability and authorization to reboot the remote computer. The student is responsible for any fees proctors charge for their services.

Even if someone has served as a proctor in previous courses, he or she will not be accepted as a proctor for this course if he or she does not meet these criteria. Proctor emails will only be sent to commercial or educational email addresses. Proctor approval is at the discretion of the course instructor.

The proctor form is available in .pdf format from Blackboard. The proctor forms for this course have been redesigned so please use the appropriate proctor forms. Students should review the form and get the proctor information ahead of time. Students should then open the Adobe PDF file and type the required information in the boxes on the forms. Students should print the forms and have the proctor sign the forms. The students should then fax the forms to the course instructor (Fax Number 940-397-4845).

Each student can set his/her exam appointment anytime between 9am and 9pm. It is better to take the exam during normal working hours to be sure that MSU Technical Support will be available. The course instructor will provide the examination password to the proctor by email.

The instructor may be available by phone and email during the exam time in case there are technical difficulties with the electronic version of the exam. If there are any problems during the exam, the proctor should call the course instructor (Toll Free 866-575-4305, Direct 940-397-4083, Cell 940-249-0100) If the instructor is not available, contact MSU Technical
Support through MSU Blackboard, and send an email to the instructor explaining what happened. The exam may have to be rescheduled.

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### TENTATIVE COURSE SCHEDULE 2010

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
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<tbody>
<tr>
<td>August 21</td>
<td>MSU Fall Semester Classes Start</td>
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<tr>
<td>Sept 12 and 13</td>
<td>On-Campus Seminar Classes In-Class Image Review</td>
</tr>
<tr>
<td>September 22</td>
<td>Pharmacology CD Quizzes (4) Complete</td>
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<td></td>
<td>Pharmacology Blackboard Exam Complete</td>
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<tr>
<td>October 13</td>
<td>Online Case Evaluation</td>
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<tr>
<td>November 3</td>
<td>Projects Due to V. Sanders</td>
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<tr>
<td>November 23</td>
<td>MRI Module Complete</td>
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<td></td>
<td>MRI Blackboard Exam Complete</td>
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<tr>
<td>Nov 29-Dec 1</td>
<td>Practice RA Certification Exam</td>
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<tr>
<td>Dec 5, 6, and 7</td>
<td>On-Campus Seminar Classes</td>
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<td>Clinical Portfolio Check Out (Bring Nursing CD's)</td>
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Last Date to File for December Graduation – October 4, 2010
Last day to File for May Graduation - October 11, 2010
MSU Commencement December 11