



Midwestern State University

Robert D. & Carol Gunn College of Health Sciences & Human
Services

The Shimadzu School of Radiologic Sciences

RADS 5556- RA Clinical Preceptorship V

Course Number: RADS 5556 6 credits Fall 2021
Course Title: RA Clinical Preceptorship V

Professor

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Course Overview

This clinical course will focus on imaging procedures, anatomy, physiology, and pathophysiology of the vascular, lymphatic, and neurologic systems. In addition to scheduled in-class activities, the students observe and participate in radiographic procedures and imaging under the direct supervision of radiologist preceptors for at least twenty-four (24) clinical hours per week.

Course Objectives

Upon completion of this course, the student should be able to:

- Apply knowledge and skills to function at an advanced clinical level.
- Demonstrate communication skills to promote improvement of health care, develop professional practice and maintain interdependent working relationships with other health care professionals.
- Use critical thinking strategies for the resolution of concerns and issues in radiologic sciences.
- Demonstrate professional ethical behavior.
- Apply patient assessment evaluation.
- Formulate image analysis for neurologic, vascular, and lymphatic procedures.
- Demonstrate competence on neurologic, vascular and lymphatic procedures, including patient preparation, fluoroscopy, and other procedures encountered during the semester.
- Identify and describe the use of contrast materials used in neurologic, vascular, lymphatic imaging.

- Identify indications and contraindications for appropriate neurologic, vascular, and lymphatic procedures.
- Discuss the pathophysiology of diseases common affecting the neurologic, vascular, and lymphatic systems.
- Identify common pathologies demonstrated on neurologic, vascular, and lymphatic imaging.

Teaching Strategies

Clinical, lecture, group discussion, written assignments, online videos, image review, and student presentations. In addition to scheduled in-class activities, the student will observe and participate in radiographic procedures and imaging under the direct supervision of his/her preceptor radiologist at least twenty-four (24) clinical hours per week.

Course Materials

Textbooks

Kaufman, J. & Lee, M. (2014). *Vascular and Interventional Radiology*, 2nd ed. Philadelphia: Elsevier Saunders. [ISBN 978-0-323-04584-1]

Herring, W. (2016). *Learning Radiology: The Basics* (3rd ed.) Philadelphia: Elsevier Saunders. [ISBN: 978-0-323-32807-4]

Mandell, J. (2013). *Core Radiology: A Visual Approach to Diagnostic Imaging*. Cambridge UK: Cambridge University Press. [ISBN: 978-1-107-67968-9]

Internet connectivity

Students need an up-to-date computer with an internet connection in this course.

Proctor Specifications/ Computer Requirements:

- PC Users: A well-working computer running Windows XP or higher with 1024 MB of RAM or higher.
- Mac Users: A well-working computer running Mac OS X or higher.
- Headphones or working speakers connected to the computer.
- Webcam and microphone
- A reliable high-speed internet connection (minimum 768 Kbps/384 Kbps Download/Upload).
- A web browser with Adobe Flash Player installed.

Course Requirements

The student must:

- Complete 336 total clinical hours.
- Perform at acceptable level as evaluated by the radiologist preceptor.
- Prepare case studies, according to guidelines.
- Enter patient interactions/procedures in online database.
- Complete course modules, reading, and assignments.
- Successfully perform the In-class image review (Hot-Seat) with a score of 80 or higher.
- Pass the Practice RA examination with a **75 or higher in 2 attempts**.
- Meet all submission deadlines.

Communication with Instructor

Contact information for the instructor is listed at the beginning of this syllabus. Email is the preferred mode of communication. **Students must use their standardized MSU Student email for correspondence about this course.** When emailing the instructor, you must use the following subject header:

5556_your last name_topic of message Example: 5556_Smith_Quiz 4

When there is a need to contact a student, the instructor will use the student's students.msutexas.edu email account. The instructor is not responsible for sending emails to any other email account (set up your email to forward messages to an email you check often to avoid potentially missing any correspondence). Faculty members will not be responsible for keeping up with other email addresses for students. If you have not established this account or you need help forwarding messages, do so as soon as possible by going to the [IT Help Desk](#).

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.).

Evaluation

Grade distribution

- 30% Professional Evaluation (2 evaluations- 15% each)
- 10% Case Studies (2 Case studies)
- 15% Module Quizzes
- 15% Hot Seat
- 25% ARRT Practice Examination
- 5% Semester Documentation

Grade Scale

A = 100 - 90

B = 89 - 80

C = 79 - 70

D = 69 - 60

F = 59 and below

Grading Cycle

All assignments are graded together as a group to maintain a higher level of consistency. Grading begins on the first business day after a due date, outside of university holidays and professional meetings, and is typically completed before the next due date. Students may track your progress through the Gradebook in D2L.

Late Work

Due Dates. Assignments must be submitted by 23:59 (11:59 pm) Central time, on scheduled due dates in the course schedule. If a student fails to meet a deadline, the student will receive **no (0) credit** for the assignment not submitted on time.

Emergency Extension. If you have a major event such as a death in the family, illness, hospitalization, or other extenuating circumstances, email the instructor as soon as possible and on or before the scheduled due date. I will grant extensions on an individual basis.

Technical Difficulties

On occasion, you may experience problems accessing D2L or class files located within D2L, Internet service connection problems, and/or other computer related problems. Make the instructor aware of a technical problem as soon as possible. If a problem occurs on our end, such as D2L failure, then a due date extension will typically be granted. **Dropbox assignments that can be attached in an email should be emailed to the professor as soon as a problem is encountered. Failure to do so may result in points being lost.**

For help:

- Use the D2L help link in D2L
- Contact your Instructor
- And for other computer access issues, contact [information systems](#)

Attendance

This is a hybrid distance education course. Because of the unique distance learning format for this program, students must be present and on-time for the on-campus seminar to receive a passing grade. There are no exceptions to this policy. Students who are tardy for class risk a grade reduction or dismissal from the class.

Because students and instructors in this program do not regularly interact in a traditional classroom setting, electronic communication is essential. Students must be vigilant in checking email and logging onto Desire2Learn (D2L) to ensure that messages from the instructor are received in a timely manner.

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 168 (940)397-4140, 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 ADA Coordinator may be contacted at (940)397-4140, or 3410 Taft Blvd., Clark Student Center Room 168.

The Use of Auxiliary Aids and Intermediaries

Students with documented disabilities are provided with accommodations at the Program, which may include involvement of an intermediary or auxiliary aid. No disability can be reasonably accommodated with an aid or intermediary that provides cognitive support, substitutes for essential clinical skills, or supplements clinical and ethical judgment. Thus, accommodations cannot eliminate essential program elements or fundamentally alter the RA program curriculum.

Administrative Process

Unresolved issues related to this course should be first addressed between the student and the course instructor. If there is no resolution, students must follow this sequence:

1. Department Chair – Beth Veale' (940-397-4611)
2. College Dean - Dr. Jeff Killion (940-397-4594)
3. Dean of Students – Matthew Park (940-397-7500)

Honor System

RADS 5556 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 or her work will be completed in full observance of the MSU Code of Student Conduct. A student should consult the current Student Handbook for answers to any questions about the code.

All components of RADS 5556 are designed to represent the efforts of each student individually and are **NOT** to be shared, copied, or plagiarized from other sources. When students submit their efforts for grading, they are attesting they abided by this rule.

Cheating includes, but is not limited to:

- Use of any unauthorized assistance in taking quizzes, tests, or examinations.
- Dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or
- The acquisition of tests or other academic materials belonging to the university faculty or staff without permission.
- ***Alteration or falsification of any clinical record or evaluation.***

Plagiarism includes, but is not limited to:

- The use of, by paraphrase or direct quotation without correct citation in the text and in the reference list,
- The published or unpublished works of another person.
- Students may NOT submit papers and assignments that they have previously submitted for this or other courses.
- The use of materials generated by agencies engaged in "selling" term papers is also plagiarism.

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class. Whenever a student is unsure of whether a situation will be interpreted as academic dishonesty, he/she should ask the instructor for clarification. If students are guilty of academic dishonesty, ***will be dismissed from the RA program.***

Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. If you have any questions about what constitutes plagiarism, please consult:

- The entire University Academic Dishonesty Policy which can be found in the [University Student Handbook](#)
- The website [Plagiarism.Org](#), or
- The instructor.

References

¹ iParadigms. (2014). What is plagiarism? Retrieved from <http://www.plagiarism.org/plagiarism-101/what-is-plagiarism>

The instructor will be using an online plagiarism checker in this course.

PLEASE NOTE

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/ project in order to verify originality and authenticity, and for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity, and to detect for plagiarism.

Senate Bill 11

Senate Bill 11 passed by the 84th Texas Legislature allows licensed handgun holders to carry concealed handguns on campus, effective August 1, 2016. Areas excluded from concealed carry are appropriately marked, in accordance with state law. For more information regarding campus carry, please refer to the [University's webpage](#).

If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins at patrick.coggins@msutexas.edu

CLASS ACTIVITIES AND ASSIGNMENTS

Professional Evaluation - 30% (2 per semester, 15% each)

Due: One at midterm and one at the end of the semester

The Radiologist Preceptor will evaluate the MSU RA student twice a semester (**midterm and end-of-semester**) on his/her overall performance. The midterm evaluation will be sent back to the clinical course instructor directly from the Radiologist. ***The ARRT Summative Evaluation Rating Scale will be counted as the end-of-***

semester professional evaluation. The clinical course instructor will review the grade with the student.

Case Study Presentation - 10% (2 for semester)

Students will formulate two case studies during the semester. Topics must be approved by the instructor and students may not have the same topic. Topics will be posted in the Course Discussion Board for approval by the due date in the course syllabus. Students will create PowerPoint case studies on patients he or she encountered in clinical. **One must be a pathology seen on a vascular invasive procedure and one must be over any pathology but must include post-processing techniques for demonstration of the pathology on CT or MRI.** All patient information must be removed as per HIPAA policy.

The student must cover all the items in the case study checklist. The case studies will be in the form of a **PowerPoint presentations**. Submit the case study PowerPoints to the appropriate course dropbox by the due date. Students will give the presentations in class during the on-campus weekend.

Case Study Checklist

- Patient symptoms-Patient presents with these symptoms
- History and physical examination-H and P results
- How is diagnosis made?
 - What should be done 1st, 2nd, 3rd, etc...If applicable, include which radiological procedure would be best to show this abnormality
 - Imaging studies (On Post-Processing case study, discuss how the image was formulated i.e slice thickness, imaging protocol, MIP, MRA, MR sequences, etc.)
 - Image observation-5 D's
 - Lab work-What was done, what should be done
- Identify Pathology
 - Description of pathology
 - Characteristics of pathology-How does this pathology affect normal physiology? Describe the pathologic features on imaging.
 - Causes of pathology
 - Is this pathology known by any other names?
 - Statistics/Incidence Rate-Are any particular groups of people more susceptible to this pathology?
- How is this pathology treated (medication, interventional procedures, surgeries, etc.)? What is done for a patient with this pathology?
 - Prognosis-With and without treatment

- Sources-Identify all sources of information in APA format

Semester Documentation - 5%

All Semester Documentation will be submitted to the proper assignment dropbox or recorded in the Tracejsys reporting system.

- **Daily Clinical Procedures and Clinical Time**
 - Students will document patient procedures and clinical “clock-in” and “clock-out” time in the [Tracejsys](#) website.
 - This semester students are responsible for a minimum of **336 clinical hours**, which 36 are spent reviewing images with the Radiologist Preceptor. The semester is 15 weeks in length. Clinical hours for this semester are based on 14 weeks x 24 contact hours per week with a Radiologist. Of the 24 hrs. per week the student is expected to spend 4 hrs. a week of direct image review with the Radiologist Preceptor.
- **ARRT Clinical Competency Sheets**
 - The student will scan and upload any ARRT clinical competency sheets to the appropriate course dropbox
- **Clinical Completion Plan**
 - This semester, **100% (500)** of the total minimum procedure performances should be completed by this time in the program and **100% (16)** of the total competency requirements should be completed.
- **Semester goals**
 - Students will develop 3-5 semester goals to complete by the end of the semester. The goals should be measurable and achievable. The student will upload a Word document with the goals to the correct course dropbox by the due date in the course syllabus.
- **Clinical experience evaluation (mid-semester and end-of the semester)**
 - Students will write 1 – 2 pages Word document evaluating his/her clinical experience at mid-semester and at the end of the semester.
 - The clinical experience evaluation is a narrative of your clinical experience so far. The student can discuss his/ her clinical experience and is a self-reflection of experiences. The student can discuss things he/she is learning, challenges, things needed to be improved on, communication/interaction with radiologist and technologists, interesting cases, complications or incidents, personal struggles, things the student would like to work on for next semester, etc.
 - The end-of-semester evaluation should include goals accomplished and not accomplished during the semester.

- The mid-semester clinical experience evaluation and end-of-semester clinical experience evaluation will be submitted to the appropriate assignment dropbox by the due dates at the end of the course syllabus.
- **Miscellaneous Documentation-**
 - Students will upload any continuing education, seminars, presentations, community service, skills check, etc. (if applicable) to the appropriate dropbox by the due date at the end of the course syllabus.
- **ARRT CR-1 and Summative Evaluation Rating Scales-**
 - Students will upload the ARRT CR-1 Form and Summative Evaluation Rating Scales **SIGNED BY THE RADIOLOGIST PRECEPTOR** to the appropriate dropbox by the due date at the end of the course syllabus. **If total number of procedures are not met by the due date, please contact the instructor for further instructions.**

Module Quizzes - 15%

Independent Reading Assignments

Students should complete the reading assignments, answer the chapter objectives, review the internet resources, and review the questions at the chapter end before attempting the open book module quizzes. The course content is divided into modules by chapters. Additional resource material is available through the Internet. Each module has a quiz. See the Course Schedule at the end of this syllabus for quiz deadlines.

Module 1: Arterial

Module 2: Venous & Pulmonary

Module 3: Neurologic

Module 4: Hematology and Lymphatic

When a student has reviewed a module and is ready for the quiz, he or she will log on to Desire2Learn (D2L) and receive a customized timed module quiz consisting of randomized multiple-choice questions. Students may take quizzes ahead of schedule but **MUST** complete them by the scheduled deadlines on the Course Schedule at the end of this syllabus.

The information covered during seminar days will be included on the module quizzes.

It is important to know the module content before attempting the module quizzes because they are timed. Quiz scores will be available immediately after a student submits his or her quiz for grading.

If students have technical difficulties during a quiz, they should use the “Help” link at the top toolbar in Desire2Learn (D2L), contact the MSU Information Systems Support Staff, and send an email to the course instructor explaining what happened.

If a student finds a faulty quiz test item or believes that a quiz question has been scored incorrectly, he or she should send an email to the course instructor (Vicki.dillard@msutexas.edu) that includes the following:

Module Quiz Number (1 –3)

Question Stem

Answer Scored as Correct by the Computer

Answer the Student Thinks Should be Correct

Rationale Supporting Why the Student's Answer is Correct

Page numbers must be included when referencing the textbook in a rationale

After reviewing the case, if the course instructor thinks a revision is justified, the student's quiz score will be revised to reflect the additional points and the test bank will be updated. It may take several weeks for the student to receive a response because the instructor works on batches of questions for a quiz at a time.

In-class image review (Hot-Seat)- 15%

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 will be comprehensive of all areas.

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. Students who do not achieve a minimum of grade level B on the repeated review, will not successfully complete this course, and will not continue in the RA Program.

Practice RRA Certification Exam - 25%

ProctorU Scheduling

The RRA Practice Certification Exam will be administered using Desire2Learn (D2L) and ProctorU online proctoring. You may schedule your exam for any time within the testing dates in the course schedule. ProctorU instructions, please read the [ProctorU student instruction guide](#).

- Test your connection and equipment **BEFORE** the day of the test. If you are using a MacOS [please see this link for instructions](#)
- Please use a wired connection (if possible) for internet access.
- Use Firefox browser if possible.
- You will be able to use a calculator for this exam, so please have a standard calculator (you may not use your phone calculator) for the exam.

- You may have one sheet of scratch paper which you will have to destroy after the examination.
- You will be able to access the test only on the day scheduled, so if you have to change dates, please notify the instructor immediately.
- The RRA Practice Exam will be found in your “Course Content” area (Not in the Test area)
- Enter your name in the space and click submit. The proctor should enter the authorization password in the authorization area.
- When submitting your test please, **do not exit the browser or close anything until you receive a confirmation that your test has been submitted.** This might take as long as 5-10 minutes so please be patient. If you do not see a confirmation page, please contact the instructor.

Technical problems

If you are disconnected during your exam, you must immediately send an email to your professor, and immediately contact ProctorU. All exams are monitored and a log is created by the proctor and by D2L.

All times will be documented

The exam must be taken within the scheduled test dates, regardless of any technical issues that may arise. This is the student’s responsibility.

Exam Format

- The proctored practice RRA Certification examination is **closed book**.
- The exam is a timed, 2 hours (120 min) test.

The exam will consist of approximately 100 Multiple Choice Questions divided into the following categories:

Patient Care	
Patient Management	17
Pharmacology	13
Patient Safety, Radiation Protection and Equipment Operation	13
Procedures	
Abdominal Section	22
Thoracic Section	14
MSK and Endocrine Section	10
Neurological, Vascular and Lymphatic Section	<u>11</u>
	100

Scores will not be released until all students have completed the Practice RRA certification examination.

All course requirements must be completed before a grade is awarded. Students must complete the final and all course work by the dates published in the course schedule.

See the Course Schedule below.

RADS 5556- Fall 2021- Course Schedule

RADS 5556-Fall 2021- Course Schedule	
Date	Activity * Note: These are Central Times*
August 23	Classes Begin
September 3	Semester Goals due to dropbox
September 10-12	RA On-campus Days
September 24	Module 1 due
September 24	Case study topics due to Discussion Board
October 15	Midsemester Professional Evaluation due
October 15	Midsemester Clinical Experience Evaluation due
October 22	Module 2 due
November 19	Module 3 due
November 29-December 2	Practice RA Exam available
December 1	Case Studies due to DropBox
December 2	All Semester Documentation due (End of semester Clinical Experience Evaluation , ARRT competencies , Misc. documents , ARRT CR-1 and Summative Evaluation Rating Scales) to correct dropbox Clinical procedures and clinical time entered in trajecsys.com)
December 3- 4	RA On-campus Seminar Days