Gunn College of Health Sciences and Human Services
Department of Radiologic Sciences
Bachelor of Science, Radiologic Sciences Program
Course Syllabus - Rodney Fisher

RADS 4703 Principles of Computed Tomography

Course Information

Name	RADS 4703x20-Principles of Computed Tomography (online)
Credit	3 hours
Term	Spring 2019
Dates	January 12, 2019 – April 30, 2019
Time Commitment	Students should expect to spend at least 9 hours per week on course material in a 15 week term or 12 hours per week in a 10 week term
Prerequisites	None

Professor

Rodney Fisher, MSRS, R.T. (R) (N) (CT) (BD), CNMT

Assistant Professor, Radiologic Sciences

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                    3410 Taft Blvd, Bridwell Hall 230
                    Wichita Falls, TX 76309

Office hours: Mondays & Wednesdays 10am – 4pm

                    Tuesdays & Thursday 10am – 12pm

Communicating with the Professor

I prefer email so there is a record of the communication and often I am away from my desk. Phone calls may be answered by email when appropriate. I will respond or at least acknowledge all student communications within five (5) business days. If this time period will be longer because I am out of town or for another reason, a news item will be posted online in D2L for the class. Please always give me the time asked for to respond before repeating your request.

Course Description

This course focuses on computed tomography protocols and procedures, contrast media, physics, sectional anatomy, and patient care. This course meets the 16 hours of structured education required by the American Registry of Radiologic Technologists (ARRT).

Course Objectives

Upon completion of this course, the student will:

- Understand and apply best standards in patient care.
- Describe appropriate CT radiation safety practices.
- Discuss dose reduction techniques.
- Identify and define CT procedures.
- Discuss image production including evaluation and archiving.

Teaching Methodology

Independent reading assignments; D2L module quizzes; a computed tomography project; and a comprehensive proctored final examination will be used.
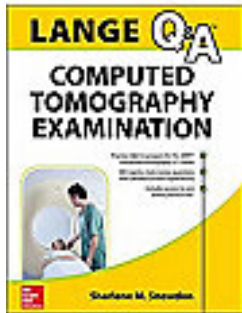
Course Materials

Textbooks

Required

Romans, L.E. (2018). *Computed tomography for technologists: A comprehensive text*. Baltimore, MD: Wolters Kluwer Health – Lippincott Williams & Wilkins. [ISBN 9781496375858]
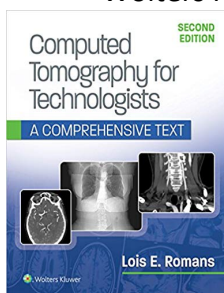
Recommended

Snowdon, S.M. (2016). *LANGE review: Computed Tomography Examination*. New York, NY: McGraw-
Hill Education. (ISBN 9780071843867)

Recommended

MedOne Radiology

This online resource is free to MSU students. Access MedOne Radiology through the Moffett Library online databases. Log in to the MSU portal and access the Library Resources. Under the Research Databases tab click on Health Sciences and scroll down to MedOne.

MedOne Radiology is a comprehensive online reference for all medical imaging specialists. It provides extensive case libraries and diagnostic guidance for those in training, and essential references and procedural guidelines for the qualified specialist in clinical practice.

Recommended

American Psychological Association. (2010). *Publication manual of the American Psychological
Association* (6th ed.). Washington, DC: Author. [ISBN 9781433805615]
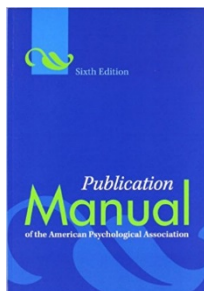
Computer Requirements

You need access to an up-to-date computer with an internet connection in this course. D2L does not work well with Internet Explorer. Use a different browser when working in D2L.

Proctor Specifications

- Web Camera 640x480 resolution minimum, 1280x720 resolution recommended.
- PC Users: A well-working computer running Windows Vista or higher (Windows 10 S is not supported).
- Mac Users: A well-working computer running Mac OS X 10.5 or higher. Mac OS X 10.10 Yosemite recommended
- A reliable high speed internet connection
    - minimum download .768 Mbps
    - minimum upload .384 Mbps

- A functioning microphone (sometimes web cameras have built-in microphones).
- One of the following compatible web browsers:
    - Google Chrome (preferred)
    - Mozilla Firefox
    - Safari
- The following plugins for your web camera:
    - Adobe Flash Player v12
    - Adobe Shockwave player

Detailed instructions for ProctorU are in the RADS 4703 D2L course shell under the section labeled Final Examination.

Assignments

There will be six quizzes, one project, and one final examination. See more detailed descriptions of each at the end of this syllabus.

Important Dates

All times are MSU campus time

Date	Assignment
January 12	**Class opens** **All quizzes open** **Review course syllabus** **Begin Module 1: Physics and Instrumentation**
February 5	**Survey Complete by 11:59 pm** **CT Project sign-up by 11:59 pm** **Introductions due by 11:59 pm** **Module 1 Quiz due by 11:59 pm**
February 19	**Module 2 Quiz due by 11:59 pm**
March 5	**Module 3 Quiz due by 11:59 pm**
March 19	**Module 4 Quiz due by 11:59 pm**
March 25	**Last day to withdraw with a "W" grade by 4:00 pm campus time**
April 2	**Module 5 Quiz due by 11:59 pm**
April 16	**ProctorU Scheduling Deadline for Final Examination** **Module 6 Quiz due by 11:59 pm**
April 30	**CT Course Project due by 11:59 pm in the dropbox** **CT Virtual Scenarios Worksheet due by 11:59 pm in the dropbox** **Final Examination closes at 11:59 pm**

Course Modules

Module 1: Physics and Instrumentation
Module 2: Quality Control and Post Processing
Module 3: Patient Care
Module 4: Neurologic & Musculoskeletal Anatomy and Imaging
Module 5: Thoracic & Abdominopelvic Anatomy and Imaging
Module 6: Advanced CT Topics
Final Examination

Evaluation

Grade Distribution

- 35%   D2l Module Quizzes (6)
- 20%   CT Course Project
- 10%   Virtual Scenarios
- 35%   Comprehensive Final Examination

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. You may track your progress through the Gradebook in D2L.

Feedback

Feedback varies throughout the course. The News section of the course is where I will send messages to the entire class. It is best to set up your D2L account to receive an email notification (to the email of your choice) when News items are posted, so you do not miss important updates.

1. Click the down arrow in the News section on the 4703 course home page
2. Select Notifications
3. Check the box next to "News - new item available" and then check any other boxes you wish to receive an email notification from.
4. Check the email address you wish to send email notifications. If you need to change this, select "change your email settings" and enter the new email address. This email address should be an email address you check frequently.

You are welcome to email questions to clarify concepts or look for further explanations. If I come across repeated questions I will provide feedback or supplementary resources in the News section of the course so that everyone can benefit from it. You might look there first, because your question may be located there.

Late Work

Due Dates

Most assignments are due on Tuesdays except for the last week of class (see Important Course Dates above). 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 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 professor at rodney.fisher@msutexas.edu as soon as possible and on or before the scheduled due date. I will grant extensions on an individual basis. If an extension is granted, typically the following guidelines will be followed.

1. The assignment may be up to one week late and still qualify for full credit. After the one-week extension has passed, ten percent per day can be deducted until the assignment is no longer worth any credit.
2. When the assignment is completed, you must send a follow-up email to let the professor know it is ready to grade. Failure to notify the professor could lead to a grade of zero.
3. **Avoid End of Course Late Work:** Please note there are University deadlines for submitting grades at the end of the semester. All work must be turned in at least a week before grades must be posted.
4. If a course includes interaction between students in the discussion board, and if extenuating circumstances will prevent you from participating, an alternate assignment may be considered at the discretion of the professor.

Final Course Grade

A final course score of 70% is required to pass this course. Letter grades of "D" or "F" cannot be used for graduation and will require the course be repeated according to the current radiology program policies.

Technical Difficulties

On occasion, you may experience problems with accessing D2L, accessing class files located within D2L, connecting with your internet service, or you may encounter other computer related problems. Make the professor 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. **However, keep in mind it is your responsibility to have (or have access to) a working computer in this class.** *Assignments and tests are due by the due date, and personal computer technical difficulties will not be considered reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.*

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, regardless of connection issues. For help options:

- For D2L issues go online go to the Distance Education Helpdesk
- By phone call the Distance Education office at 940-397-4868 between 8am and 5pm.
- Use the D2L help link in D2L.
- Contact your professor.
- For other computer access issues, go online to the MSU Information Technology Website.

Attendance

This is an online course and there are no mandatory sessions. However, the student should be vigilant in logging in to D2L. The student should expect to log in at least 3 times per week. Regular checks will ensure that messages from the professor are received in a timely manner**.** This course is on a schedule that will be strictly adhered to. See the Important Dates section above for specific due dates.

Requesting a Withdrawal

The last opportunity to drop this course with a grade of "W" is 4:00pm on March 25, 2019. All withdrawals **must be initiated by the student**. After this date dropping the course results in a grade of "F".

In an emergency or extenuating circumstance, a student may request a grade of "Incomplete" before grades are submitted. If the professor 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".

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, professors, 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 based on 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 based on a disability are encouraged to resolve the problem directly with the area involved. If the matter remains unresolved, the Office of Disability Services for resolution will provide advice and/or assistance. The grievance procedure may be found in the Student Handbook and Activities Calendar.

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

Administrative Process

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

1. Interim Department Chair – Debra Wynne (940-397-4575)
2. College Dean - Dr. Jeff Killion (940-397-4594)
3. Dean of Students – Matthew Park (940-397-7500)

Honor System

RADS 4703 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 4703 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.

An online plagiarism service may be used in this course. Student assignments may be uploaded to the service for identification of similarities to other student papers and published works.

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 professor 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.

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 particular situation will be interpreted as academic dishonesty, he/she should ask the professor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) will be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

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 [University Academic Dishonesty Policy](#)
- The website [Plagiarism.Org](#), or
- The professor

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 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 campus carry webpage. If you have questions or concerns, please contact MSU Chief of Police Patrick Coggins by email at mpatrick.coggins@mwsu.edu.

Principles of Computed Tomography Assignment Details

There are six modules, six quizzes, one project, and one final examination in this course.
- 35 %   D2l Module Quizzes (6)
- 30 %   CT Course Project
- 35 %   Comprehensive Final Examination

D2L Module Quizzes (6)-35%

Students should complete the reading assignments, answer the chapter objectives, and review the questions at the end of the chapter before attempting the module quizzes.

When a student has reviewed a module and is ready for the quiz, he/she will log into D2L and receive a customized timed module quiz consisting of randomized multiple choice questions. Quizzes contain 30 random questions and students will have 60 minutes to complete.

Each quiz may be attempted up to three times. The final score for any module quiz will be the average of all attempts made. It is important to know the module content before attempting the module quizzes since the quizzes are timed. Quiz scores will be available immediately after a student submits for grading.

Each quiz has requirements which must be completed before the quiz will open.

Before the Module 1 quiz can be taken the student must complete all of the following:

- New Student Survey must be completed
- Post in the Introduction discussion board

For subsequent quizzes and the final examination, the student must on the previous module quiz:

- Score a 75% or greater on any one attempt; or
- Successfully compete three attempts of the module quiz (the final quiz score will be an average of all attempts)

For example, in order to take the Module 2 quiz, the student must either score 75% on any attempt of the Module 1 quiz, or complete three attempts of the Module 1 quiz. In order to take the final examination, a student must score 75% on any attempt or complete three attempts of the Module 6 quiz.

If a student finds a faulty quiz item or believes a quiz question has been scored incorrectly, he/she should send an email to the course professor that includes the following:

- Module Quiz Number (1-6)
- Question Stem
- Rationale Supporting Why the Student's Answer is Correct
- Include Page Numbers When Referencing the Textbook

For example, a student cannot send the message: "I think question number ten is wrong on quiz four" because each student gets a quiz of randomly generated test items. The professor has to know the question stem to find the question in the database. After reviewing the situation, if the course professor 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.

YOU MAY NOT TAKE THE FINAL EXAMINATION UNTIL ALL QUIZZES ARE COMPLETED. NO EXCEPTIONS.

CT Course Project-20%

The course project is designed to give the student experience working with CT protocols. In order to perform the CT Clinical Experiences, a student must have permission to perform exams on actual patients from their facility. In addition, some states regulations will not allow distance students to perform assignments at facilities within their state's borders. When you complete the New Student Survey, you will be able to determine if you can do the CT Experiences Project

There are instructions within the course for both the CT Clinical Experience Project and the Alternate CT Presentation Project.

Every student must submit one form of the CT Course Project to the appropriate drop box by the scheduled due date.

Virtual Scenarios-10%

There are three virtual scenarios for the student to complete. Allow for several hours work on each scenario. After all three scenarios are completed, there is one worksheet to turn into the appropriate dropbox. The student should complete the appropriate section of the worksheet after completing each scenario.

Before the completed worksheet may be uploaded, the student is asked to complete an anonymous survey. This survey will only be used for research purposes and has no effect upon the student's grade. The dropbox will open after the survey is completed.

The scenarios are designed to enhance the learning environment after modules 1-3 in the course have been completed. The scenarios will not open until March 1 to give students time to complete modules 1-3 prior to beginning the scenarios.

Complete instructions about the scenarios may be found in the course.

Comprehensive Final Exam-35%

All quizzes and projects must be completed before the Final Exam is taken.

The final examination must be completed by April 30, 2019 11:59 pm. Incomplete final exams will be scored a zero and the student will fail the course. Students who know they will miss a due date because of extenuating circumstances should contact the professor so their situations can be dealt with on an individual basis. Acceptance of an extenuating circumstance is at the discretion of the professor. Since the final examination is open for one month, only the most extraordinary of circumstances will be considered.

All students are required to have a webcam and microphone for the Final Exam. The appointment with ProctorU must be scheduled by April 16, 2019 in order to avoid late fees and ensure you get the appointment time you want.

Exam Format

- The proctored comprehensive final examination is closed book, and consists of 100 random multiple-choice questions.
- The exam is a timed, 2 hour (120 min) test.
- The final exam will be administered using Desire2Learn (D2L) and ProctorU online proctoring service.
- To prepare for this exam: The final has been derived from the entire content of this course. Review all of your quizzes and your textbook chapters. Reinforcing study materials include the PowerPoint presentations.

What to Bring

- The student may bring scratch paper with only ProctorU's phone number on it.
- No smart watches or any other electronic devices will be allowed.
- Students are not allowed to print the final exam.
- No textbooks or notes may be used.

ProctorU Scheduling

- You may schedule your exam for any time within the testing dates in the course schedule. You must have ALL of your course work complete when you take your final or the final will not be accessible in D2L.
- For ProctorU instructions, please read the ProctorU Student Instruction Guide in the course and visit the MSU ProctorU Webpage.
- Be aware certain equipment is required. Review the ProctorU instructions as soon as possible.
- Contact a ProctorU representative to check your equipment and bandwidth real time before your test date. If anything changes after this check (new computer, updates, ISP changes, etc.), REPEAT the check.
- All appointments should be made at least three days in advance. To make an appointment, simply create an account by visiting the MSU ProctorU Webpage. Once logged in, click on the new exam link and select the exam, date, and time you desire. You must submit payment (based on the length of the exam) at that time - usually about $25.00. You will receive an email confirming your reservation at the email address you provided to ProctorU.
- Late registrations and *Take it Now* features are subject to availability. Note: If a proctor is not available

because you did not schedule your exam in advance, the final is considered missed and a grade of zero will be given.

- Be mindful when you schedule your final exam. If you schedule the exam outside of the 5-day work week (M-F), there may be no one at MSU available to help if you have technical problems.

Technical Problems

- If you are disconnected during your exam, you must immediately send an email to your professor, and immediately contact ProctorU by phone. 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.
- Late submissions will not be accepted.
- My suggestion is to take the exam during the first days it is available (listed below) to avoid receiving a zero due to technical issues. If you have to reschedule, it must be within the scheduled dates and times.
- See the Technical Difficulties section above for help options.

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 (below).

Note: All assignments received are considered complete and will be graded as such. Any decision of the professor is final and there will be no further changes made.

Scroll down to view the Course Schedule.

Course Schedule

All times are MSU campus time

Date	Assignment
January 12	**Class opens** **All quizzes open** **Review course syllabus** **Begin Module 1: Physics and Instrumentation**
February 5	**Survey Complete by 11:59 pm** **CT Project sign-up by 11:59 pm** **Introductions due by 11:59 pm** **Module 1 Quiz due by 11:59 pm**
February 19	**Module 2 Quiz due by 11:59 pm**
March 5	**Module 3 Quiz due by 11:59 pm**
March 19	**Module 4 Quiz due by 11:59 pm**
March 25	**Last day to withdraw with a "W" grade by 4:00 pm campus time**
April 2	**Module 5 Quiz due by 11:59 pm**

Date	Assignment
April 16	**ProctorU Scheduling Deadline for Final Examination** **Module 6 Quiz due by 11:59 pm**
April 30	**CT Course Project due by 11:59 pm in the dropbox** **CT Virtual Scenarios Worksheet due by 11:59 pm in the dropbox** **Final Examination closes at 11:59 pm**