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## Course Syllabus: Imaging Informatics

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

Department of Radiologic Sciences

### Course Information

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<b>Name</b>	RADS 4533x30 Imaging Informatics Syllabus Summer 2024 Onstott (online)
<b>Credit</b>	3 hours
<b>Term</b>	Summer Long Term 2024
<b>Dates</b>	June 3-August 8, 2024
<b>Time Commitment</b>	Students should expect to spend at least 13 hours per week on course material (10-week term)
<b>Prerequisites</b>	None

### Professor

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**Kimberly Onstott EdD, RT(R)(CT)(MR), MRSO**

**Assistant Professor, Advanced Modalities Program Coordinator Radiologic Sciences**

**E-mail:** [kimberly.onstott@msutexas.edu](mailto:kimberly.onstott@msutexas.edu)

Use this format in the subject line: 4533\_your last name\_topic of the message

E-mail is the best way to reach me. If I have not responded within 72 hours, please e-mail me again.

**Phone:** (940) 397-4332 or (866) 575-4305. Please leave a message, and I will get back to you.

**Office Location:** Midwestern State University

3410 Taft Blvd

Centennial Hall 430Q

Wichita Falls, TX 76308

**Office hours:** Mondays 9-12:00, Tuesdays 11:30-12:30, Thursdays 9-10:00 CST. Please schedule an appointment by e-mail. Other hours are available by request.

## Course Description

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This course introduces information technology concepts related to health care and radiology, such as healthcare data trends, electronic health records architecture of information systems, health information privacy and security, ethics, mobile technology, telemedicine, PACS, quality improvement, and patient safety.

### Course Objectives

Upon completion of this course, students will be able to:

1. Discuss the concept of biomedical and health informatics as it relates to healthcare facilities.
2. Relate computing concepts for biomedicine and health
3. Operate the electronic health record (EHR) appropriately
4. Differentiate standards and interoperability of health informatics systems
5. Related the importance of healthcare informatics safety, quality, and value
6. Relate the health information exchange (HIE) to HER systems
7. Follow the guidelines for EHR system selection and implementation
8. Protect patient privacy through the proper use of health privacy and security regulations
9. Recognize ethical issues in health informatics

## Teaching Methodology

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Desire2Learn (D2L) Modules, Independent reading assignments, D2L open book Module quizzes, Discussion Boards, and a Comprehensive Final Exam are used in this course.

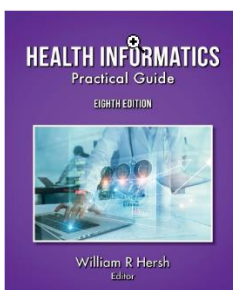
## Course Materials

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### Textbooks

#### Required

Hersh (2022). Health informatics: Practical guide for healthcare and information technology professionals. (8<sup>th</sup> ed.) Informatics Education. <http://informaticseducation.org/>



## Proctor Requirements

### Test-takers are responsible for meeting the following technical requirements:

- A reliable computer running Windows XP (or higher) or Mac OS X 10 (or higher).
- A webcam with 640x480 video pixel resolution or higher.
- Headphones or working speakers connected to the computer.
- A reliable, high-speed Internet connection.
- The ability to allow video and screen-sharing connections to the computer used to take an exam.

## Computer Requirements

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

## Assignments

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The student must:

- Complete reading assignments, visit selected internet websites
- Complete the required online examinations, including a proctored comprehensive final exam.
- Participate in asynchronous discussion threads.
- Perform internet searches.
- Meet all submission deadlines.

### General Assignment Format

This course is divided into eight (8) Modules of instruction.

Each Module contains PowerPoint presentations for each chapter and resources for each assignment. There is a quiz for each Module; the questions come from each chapter in that Module. There are discussion boards for most topics as well. You must post an original response to the discussion board AND reply to at least 2 other original student posts. The initial post should be at least 72 hours before closing to get full credit. Additionally, Module 3, chapter 4 has a drop box requirement. Be sure to read the assignment carefully.

The final exam comprises 50 random questions over all of the chapters. Be sure to study the unit quizzes to prepare for the final exam.

See detailed descriptions and due dates at the end of this syllabus.

## Course Modules

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<b>Module</b>
<b>Welcome (must complete this Module first)</b>
<b>Module One - Introduction to Biomedical and Health Informatics, History, and Computing Concepts for Biomedicine and Health</b>
<b>Module Two - Electronic Health Records</b>
<b>Module Three - Standards and Interoperability, Data Science and AI, &amp; Clinical Decision Support</b>
<b>Module Four- Natural Language Processing, Safety, Quality, and Value</b>
<b>Module Five - Health Information Exchange (HIE), EHR System Selection and Implementation</b>
<b>Module Six - Telemedicine and Telehealth, Privacy and Security, and Information Retrieval (Search)</b>
<b>Module Seven - Consumer Health Informatics, Public Health Informatics,</b>
<b>Module Eight - Imaging Informatics, Ethical Issues in Health Informatics &amp; Human-Computer Interaction</b>

## Evaluation

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### Grade Distribution

- 30% Discussions
- 30% Module Quizzes
- 15% Dropbox
- 25% Comprehensive Exam

### 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 e-mail notification (to the e-mail 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 4533 course home page
2. Select Notifications
3. Check the e-mail address you wish to send e-mail notifications. Select "Change your e-mail settings" and enter the new e-mail address if you need to change this. This e-mail address should be an e-mail address you check frequently.
4. If you want to receive these updates on your mobile, select "Register your mobile"
5. Check the box next to "News - new item available" and then check any other boxes from which you wish to receive an e-mail notification.

You are welcome to e-mail questions to clarify concepts or look for further explanations. If I encounter 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 questions and answers may be there.

## Late Work

### Due Dates

Most assignments are due on Tuesdays (see Important Course Dates below). Assignments must be submitted by the time posted in the course schedule below. All times are Central Standard Time. If a student fails to meet a deadline, the student will receive no credit for the assignment not submitted on time. The student must consult with the professor if an assignment due date has been missed.

### Emergency Extension

If you have a major event such as a death in the family, illness, hospitalization, or other extenuating circumstances, e-mail your professor at [kimberly.onstott@msutexas.edu](mailto:kimberly.onstott@msutexas.edu) as soon as possible and on or before the scheduled due date. We will grant extensions on an individual basis. If an extension is granted, the following guidelines will typically be followed.

1. The assignment may be up to one week late and still qualify for full credit. After the one-week extension, ten points 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 e-mail informing the professor that 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.

## HIPAA Requirement

Do not place ANY patient name on your assignments. Any proper name that appears on an assignment other than yours will be considered a HIPAA violation, and the assignment grade may be dropped to as low as a zero, depending on the severity of the violation.

### 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 to be repeated according to the current radiology program policies.

### Technical Difficulties

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Occasionally, you may experience problems with accessing D2L, accessing class files located within D2L, connecting with your internet service, or other computer-related problems. Make the professor aware of a technical problem as soon as possible. A due date extension will typically be granted if a problem occurs on our end, such as D2L failure. **However, remember 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 a reason for the instructor to allow students extra time to submit assignments, tests, or discussion postings.**

Dropbox assignments that can be attached in an e-mail should be e-mailed to the professor as soon as a problem is encountered. Failure to do so may result in lost points, regardless of connection issues.

For help options:

- For D2L issues, go online go to the [Distance Education Helpdesk](#)
- Call the Distance Education office at 940-397-4785 between 8 am and 5 pm.
- Use the D2L help link in D2L.
- Contact your professor.
- For other computer access issues, go online to the MSU [Information Technology Website](#).

### Attendance

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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

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The last opportunity to drop this course with a grade of "W" is 4:00 pm on July 13, 2024. 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

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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

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

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

## Honor System

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RADS 4533 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 4533 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 will be used in this course. Student assignments will 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.

Artificial Writing Generators

The use of any artificial writing generator (ex: Chat GPT) is strictly prohibited. The use of artificial writing generators can and will be deemed a violation of the university's honor system. Any or all parts of a written assignment identified as having elements of writing that are attributed to an artificial writing source will automatically receive a zero (0) for a grade and there will be no making up of the assignment. This is a form of both cheating and 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 plagiarism.



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## Senate Bill 11

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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 e-mail at [mpatrick.coggins@msutexas.edu](mailto:mpatrick.coggins@msutexas.edu).

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## Communicating with the Professor

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Contact information for the professor is listed at the top of the first page of this syllabus. The professor prefers e-mail so there is a record of the communication and often the professor is away from her desk.

4533\_your last name\_topic of message

Example: 4533\_Smith\_Title Page question

When there is a need to contact a student, the professor will use the student's students.msu.edu e-mail account. The professor is not responsible for sending e-mails to any other e-mail account (set up your e-mail to forward messages to an e-mail you check often to avoid potentially missing any correspondence). Faculty members will not be responsible for keeping up with other e-mail addresses for students. If you have not established this account or you need help forwarding messages, do so as soon as possible by contacting [information systems](#).

The professor will respond or at least acknowledge all student communications within five (5) business days. If this time period will be longer because the professor is out of town or for other reasons, a news item will be posted online in D2L for the class. Please always give the professor the time asked to respond before repeating your request. Always include your course number and topic in the subject line of the e-mail.

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## RADS 4533 Assignment Details

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### Order of Content

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Since this course is highly interactive between students with much of the learning occurring in the discussion boards, students are required to complete the course content in the order presented in the course by the dates listed in the course schedule.

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### Late Work

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If extenuating circumstances occur that may cause a delay in completing an assignment or quiz by the deadline the student should contact the instructor before the assignment is due (see the section on late work above); such cases will be dealt with on an individual basis.

## HIPAA requirement

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Do not place ANY patient name on your assignments. Any proper name that appears on an assignment, other than yours will be considered a HIPAA violation and the assignment grade may be dropped to as low as a zero, depending on the severity of the violation.

## Module Quizzes -30%

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When a student has reviewed a Module and is ready for the quiz, he or she will log on to D2L and receive a customized timed Module quiz consisting of randomized questions. See the course schedule for the due dates for the quizzes.

It is important to know the Module content before attempting the Module quizzes because they are **timed**. Quiz questions will be from information learned in the Modules. Be sure to read all required reading assignments and course notes for each Module. Quiz scores will be available immediately after a student submits his or her quiz for grading.

Quizzes not completed by the due dates, may receive a zero (0). If extenuating circumstances have occurred that will prevent you from meeting the due dates, please let me know as soon as possible.

If students have technical difficulties during a quiz, they should use the Help link at the top toolbar in D2L, contact the MSU Information Systems Support Staff (<https://msutexas.edu/it/>), and send an e-mail to the course instructor explaining what happened. Screenshots and/or taking a picture of your screen may help in diagnosing the problem

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 e-mail to the course instructor that includes the following:

- Module Quiz Number (I -VI)
- 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.

## Discussions -30%

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There are several discussion topics in this course. Each discussion requires an original post and at least two replies to two of your peers. Your first post must be posted within 72 hours of the due date to receive full credit. This gives your peers ample time to reply.

## Dropbox -15%

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When a student has reviewed a Module and is ready for the quiz, he or she will log on to D2L and receive a customized timed Module quiz consisting of randomized questions. See the course schedule for the due dates

for the quizzes.

## **Comprehensive Final Exam- 25%**

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This exam will cover all the coursework you have completed in this course. It is proctored, is timed, and can only be completed once for a grade. It will only be open during the times and dates in the course schedule.

### **Exam Format**

- The comprehensive final examination is a timed (60 min) exam, consisting of 50 random questions over all the chapters. The questions will be a mix of multiple-choice, multiple-select, and true/false.
- Be sure to study the Module quizzes to prepare for the final exam.
- To prepare for this exam, review the quizzes in the course.
- The comprehensive exam will be administered using Desire2Learn (D2L) and LockDown Browser with Webcam monitoring.

### **Technical problems**

- If you are disconnected during your exam, you must immediately send an e-mail to your professor.
- 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.
- I suggest taking the exam during the first days it is available (listed below) to avoid receiving a zero due to technical issues.

See the Course Schedule on the next page.

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

**Scroll down to view the Course Schedule.**

## Course Schedule

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All times are Central Standard Time (CST)

Date	Assignment
June 3	Class opens Review the Welcome Module and the Course Syllabus <b>Note: Each Chapter has discussion topics</b>
June 11	Module 1 Discussion Boards Due by <b>23:59</b> Quiz 1 Due by <b>23:59</b>
June 18	Module 2 Discussion Boards Due by <b>23:59</b> Quiz 2 Due by <b>23:59</b>
June 21	Unit 2 Electronic Medical Record Exercise Dropbox Assignment Due by <b>23:59</b>
June 25	Module 3 Discussion Boards Due by <b>23:59</b> Quiz 3 Due by <b>23:59</b>
July 2	Module 4 Discussion Boards Due by <b>23:59</b> Quiz 4 Due by <b>23:59</b>
July 9	Module 5 Discussion Boards Due by <b>23:59</b> Quiz 5 Due by <b>23:59</b>
July 16	Module 6 <b>No Required Discussion Board</b> Quiz 6 Quiz Due by <b>23:59</b>
July 23	<b>Final exam opens 0600 am</b>
July 23	Module 7 Discussion Boards Due <b>23:59</b> Quiz 7 Due by <b>23:59</b>
July 30	Module 8 Discussion Boards Due by <b>23:59</b> Quiz 8 Due by <b>23:59</b>
July 30	<i>Last Day to take the final exam by <b>23:59</b></i>
July 31	Last day to withdraw with a "W" grade by 4:00 pm campus time

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.