

# ***RADS 4232***

## ***Advanced Medical Imaging***

***Fall 2021***

### Instructor Information

**Instructor: Robert Comello M.S, R.T.(R)**

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### **Course Description**

An introduction to the use of computers in medical imaging and a survey of specialized imaging modalities.

### **Learning Outcomes**

The student will:

- explain the use of computers in medical imaging
- describe the various specialized imaging modalities
- differentiate between images produced by different modalities
- identify the anatomy demonstrated

### **Textbooks**

- Textbook of Radiographic Positioning and Related Anatomy, 9<sup>th</sup> Ed., by Bontrager & Lampignano
- Essentials of Radiographic Physics & Imaging, Johnston & Fauber
- Radiologic Science for Technologists: Physics, Biology, and Protection, 10<sup>th</sup> Ed., by Stewart Bushong

### **Academic Dishonesty Policy**

Academic dishonesty (cheating, plagiarism, etc.) will not be tolerated in this class and may result in suspension or dismissal from this course and from the program. Cases will also be referred to the Dean of Students for possible dismissal from the university.

Student Honor Creed: "As an MSU Student, I pledge not to lie, cheat, steal, or help anyone else to do so."

**Cheating** includes, but is not limited to, (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) 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but is not limited to, the use of, by paraphrase or direct quotation without correct recognition, the published or unpublished works of another person. The use of materials generated by agencies engaged in "selling" term papers is also plagiarism.

### **Participation**

All students are expected to fully participate in all class activities, including lectures and discussions, demonstrations, presentations, small-group projects, and collaborative learning activities.

### **Professionalism**

At all times, students are expected to conduct themselves in a professional manner. Professionalism includes establishing positive relationships and interactions with peers, colleagues, and faculty; attending respectfully to others who are sharing information with the class; being flexible to unforeseen changes in schedules and assignments.

### **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 – Dr. Beth Veale (940-397-4611)
2. College Dean – Dr. Jeff Killion (940-397-4594)
3. Dean of Students – Matthew Park (940-397-7500)

### **Americans with Disabilities Act (ADA)**

The Radiologic Sciences Program at Midwestern State University complies with the ADA in making reasonable accommodations for qualified students with disabilities. If you have an established disability as defined in the ADA and would like to request accommodations, please contact Disability Support Services as soon as possible - <http://mwsu.edu/student-life/disability/index>.

### **Due Dates**

All course work is due by date posted on the course calendar and tentative course schedule found at the end of the syllabus. Late submissions will NOT be accepted.

Note: The last day to drop this class with a “W” is October 25, 2021, at 4 pm.

### Clinical Rotations

If for any reason, you are unable to complete a rotation through a particular modality, for example, radiation therapy, it is your responsibility to contact the Clinical Coordinator so they can make arrangements at another facility for you. If you are unable to complete a rotation through a particular modality due to COVID restrictions, you will be required to do a case study related to that rotation in lieu of the actual lab activity.

### Grading

Course grading breakdown			
The final course grade will be calculated by the following criteria:		The grading scale will be:	
Unit Examinations (8)	45%	90 - 100 =	A
Labs & Assignments (6)	*55%	80 – 89 =	B
		75 – 79 =	C
		60 – 74 =	D
		< 60	F

Note: This instructor does not round up the final grade average. Proofread your work and confirm you have the correct file downloaded into the drop box.

### Student Responsibilities:

#### Please note:

Lockdown browser will be utilized for all examinations. Please be sure to check that your WiFi is reliable and working with a lockdown browser. Also, **the Lockdown browser does not work with Chromebook.**

As a student enrolled in this course, you will be responsible for adhering to and meeting posted deadlines and due dates. All activities for this course are listed at the end of this

syllabus. Activities such as quizzes have expiration dates. Please take note that expiration dates for quizzes may differ from deadlines for assignments and activities.

Quizzes and assignments/activities are spaced out in a manner that will allow you ample time to complete them. Assignments/Activities will be accepted on or before the posted due date and deadline. If you choose to wait until the **very last minute** and there is some problem with getting the assignment to me in time, that is the risk that you take and you must accept the penalty.

**Penalty:**

Any student that missed a quiz expiration date will not be allowed to take the quiz once the time has expired. If this happens, the student will receive a grade of zero (0) for that quiz. If a student misses a deadline for an activity or assignment, that assignment/activity will not be graded and a grade of zero (0) will be given.

**Emergencies do occur and they will be dealt with on an individual basis.** Do not inform me of personal emergencies after the deadlines/due dates and expiration dates have passed.

**DO NOT WRITE TO ME AND ASK IF I WILL ACCEPT A LATE ASSIGNMENT. I WILL NOT.**

**Calendar**

There is a course calendar located on the right side of the course home page. Check it often for due dates and deadlines. Due dates and deadlines can also be found in the assessments by clicking on the tests and dropbox.

Tentative course schedule

<b>Activity</b>	<b>Starts</b>	<b>Deadline</b>
Unit Examinations	August 23, 2021	On or before November 30, 2021, at 8 am
Lab Activities	August 23, 2021	On or before December 3, 2021, at 8 am

**Midwestern State University  
Robert D. And Carol Gunn College of Health Sciences and Human Services  
The Shimadzu School of Radiologic Science**

**Course Number: RADS 3213 x 30 3 credits Fall  
2021**

**Course Title: Advanced Clinical Practice  
Skills**

## **Professor**

**Robert Comello, M.S., R.T.  
(R)**

**Radiologic Sciences Program**

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## **Course Overview**

This course focuses on the current healthcare delivery environment including patient assessment, monitoring, and management. It includes working with multicultural patients, managing problem patients, infection control, and patient education. Additional topics include an overview of considerations when working in an increasingly digital imaging environment.

## **Course Objectives**

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

- Evaluate vital signs and EKG strips
- Identify diagnostic laboratory values that are either within acceptable limits or not acceptable limits.
- Properly chart actions and observations pertaining to a patient.
- Demonstrate familiarity with pharmacology to include drugs, contrast media and applicable regulations.

- Apply learned communication skills and techniques.
- Identify factors influencing communication.
- Demonstrate familiarity with concepts and methods of infection control

## Teaching Strategies

Independent reading assignments, Desire2Learn open book unit quizzes, projects/assignments, and proctored Desire2Learn (D2L) *closed* book final examination.

## Course Materials

### Textbooks

#### Required:

#### Required textbooks

	<b>Perry, A. G., Potter, P.A. &amp; Ostendorf, W. R. (2016). <i>Nursing interventions &amp; clinical skills (7<sup>th</sup> ed.)</i>. St Louis: Elsevier. ISBN 978-0-323-54701-7.</b>
	<b>Jensen, S.C. &amp; Peppers, M.P. (2006). <i>Pharmacology &amp; drug administration for imaging technologists (2<sup>nd</sup>. Ed.)</i>. St. Louis: Mosby. ISBN 978-0-323-03075-5 (or newest edition)</b>

#### Recommended Textbooks (not required):

American Psychological Association. (2020). *Publication manual of the American Psychological Association (7th ed.)*. Washington, DC: Author. [ISBN 13: 978-1-4338-3216-1]

### 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.
- 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 reading assignments and watch instructional videos.

- Successfully complete the required online examinations, including a proctored final exam.
- Complete the following assignments/projects
  - Cultural communication assignment,
  - Patient Assessment assignment,
  - ECG & Lab values learning activity,
  - Charting and Pharmacology assignment
- Meet all submission deadlines.
- Complete all assignments

## 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:

***3213\_your last name\_topic of message***  
***Example: 3213\_Smith\_Quiz 4***

When there is a need to contact a student, the instructor will use the student's students.mwsu.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 [MSU IT Help](#).

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

- 15% D2L open book unit quizzes with lockdown browser
- 15% Patient Assessment Assignment
- 15% ECG & Lab values learning activity
- 15% Charting and Pharmacology Assignment
- 15% Cultural Communication Assignment
- 25% **Closed book** final exam through LockDown Browser and webcam

## Grade Scale

A = 100 - 90

B = 89 - 80

C = 79 - 70

D = 69 - 60

F = 59 and below

**Note:** This instructor **does not** give extra credit. The final course grade does not get rounded up due to the fact that grades are rounded up during the semester,

## 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.

- Click the down arrow in the News section on the 3213 course home page
- Select Notifications
- Check the box next to “News - new item available” and any other boxes you wish to receive an email notification for.
- 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 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.** Assignments must be submitted by time and dates listed in the syllabus. All times are Central time. If a student fails to meet a deadline the student will receive **no (0) credit** for the assignment not submitted on time.

**Note:** All materials submitted to this course will be considered complete and will be graded as such. Proofread your work.

**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 at [MSU IT Help](#)

## Attendance

This is an online course and there are no mandatory sessions. However, the student should be vigilant in logging in to D2L. Regular checks will 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.

## **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:

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

## **Honor System**

RADS 3213 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 3213 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.

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

#### References

1 iParadigms. (2014). What is plagiarism? Retrieved from [www.whatisplagiarism.org](http://www.whatisplagiarism.org)

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 84<sup>th</sup> 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@mwsu.edu](mailto:patrick.coggins@mwsu.edu).

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## CLASS ACTIVITIES AND ASSIGNMENTS

### 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 unit quizzes. The course content is divided into units by chapters. Additional resource material is available through the Internet. Each unit has a quiz. See the Course Schedule at the end of this syllabus for quiz deadlines.

#### Unit reading

Unit	Chapters
Unit 1:	Nursing Interventions and Clinical Skills- Chapters 7, 8
Unit 2:	Nursing Interventions and Clinical Skills- Chapter 10
Unit 3:	Pharmacology and Drug Administration for Imaging Technologists- Chapters 1,2,6,7,11 Nursing Interventions and Clinical Skills- Chapter 3
Unit 4:	Nursing Interventions and Clinical Skills- Chapters 2
Unit 5:	Pharmacology and Drug Administration for Imaging Technologists Chapter 9 Nursing Interventions and Clinical Skills- Chapter 5

### Desire2Learn Open Book Unit Quizzes - 15%

#### Please note:

There will be no proctor for the final. Lockdown browser with webcam will be utilized for all examinations. Please be sure to check that your webcam, microphone and a strong and reliable WiFi is working with lockdown browser.

Also, **Lockdown browser does not work with Chromebook.**

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

When a student has reviewed a unit and is ready for the quiz, he or she will log on to Desire2Learn and receive a customized timed unit quiz consisting of randomized multiple choice questions.

It is important to know the unit content before attempting the unit quizzes because the quizzes are *timed*. Quizzes contain random questions and students will have 60 minutes to complete. Quiz scores will be available immediately after a student submits his or her quiz for grading.

Students are encouraged take the quizzes at regular intervals throughout the semester to provide a better educational experience, but all unit quizzes are available starting the day classes begin to provide maximum flexibility with student schedules. *Quizzes must be completed by the due dates or a "0" will be recorded.* Students who know they will miss a due date because of extenuating circumstances should contact the instructor so their situations can be dealt with on an individual basis. Acceptance of an extenuating circumstance is the discretion of the instructor.

If students have technical difficulties during a quiz, they should use the "Report a problem" link in the "Help" area located at the right side of the Desire2Learn RADS 3213 Advanced Clinical Practice Skills course, contact the MSU Information Systems Support Staff, *and* send an email right away to the course instructor explaining what happened.

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

- Unit Quiz Number (1 - 6)
- 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.

### **Assignments:**

Assignments must be received prior to the deadline. **Assignments MUST be sent as one file.** Before downloading the assignment to dropbox, Please double check that the file says .doc or .docx. DO NOT submit anything with the suffix .pages.

If one assignment is sent as multiple files, I will NOT accept the assignment and a grade of zero (0) will be given. **Note: All assignments submitted to this course are considered complete and will be graded as such. Double-check to make sure you are sending the**

**correct file before you hit the submit button. Any assignment not meeting the posted due date will not be accepted and a grade of zero (0) will be assigned.**

Assignments that require the student to research information must correctly acknowledge the source of information. The paper should follow guidelines of the American Psychological Association. You will need to refer to the **seventh edition** of the APA manual. For quick references I suggest you use **The Owl at Purdue** at: <http://owl.english.purdue.edu/> or take time to view the **APA tutorial** at: <http://flash1r.apa.org/apastyle/basics/index.htm>

**Important:** Before choosing a culture for the unit for assignment, it would be beneficial for you to read the criteria of that assignment. This will help you decide which cultures can best be used for this assignment.

All assignments must contain a properly formatted 7th edition APA title/cover page.

**APA Title/Cover pages for this course must have the following:**

- § Properly placed running head and page number in the margin of the page header.
- § Title of the assignment
- § Your name
- § University affiliation
- § Course number and name
- § Date
- § Instructor's name

**Patient Assessment - 15%**

**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 will automatically drop one letter grade.

On a volunteer or patient, using information found in Chapters 7 and 8 of Nursing Interventions and Clinical Skills and any other sources needed, perform the portions of a patient assessment. The requirements and instructions are found in the unit notes. You are to address every item listed in the list of required items, recording your observations and the clinical implications/significance of each.

*Please note that "normal" is an impression (the examiner's diagnosis or assessment of a problem, disease or condition) and NOT an implication (what may be causing what it is you are observing). DO NOT use "Normal" or "Within Normal Limits". Within acceptable limits is more appropriate. Normal is an impression, not an observation or an*

*implication*. Be sure to look at the example in your unit notes. DESCRIBE the implications/significance of what you observe for the "implications/significance" section. Be thorough and complete.

### **Submitting the assignment:**

The assignment is to be typed as a single WORD document only with a 7th edition APA cover page. Before downloading the assignment to the drop box, Please double check that the file says .doc or .docx. **DO NOT** submit anything with the suffix .pages. It will not open and I will not be able to grade it. A grade zero will be assigned. Submit the assignment to the area in the Unit 1 module as one attachment. The assignment is due by the deadline listed in the syllabus.

### **ECG Learning Exercise - 15%**

The student will watch the ECG Learning Exercise found in the Unit 2 learning module. The students will perform the ECG Learning Exercise also found in the Unit 2 learning module. After completion of the ECG Learning Exercise, the score should automatically be sent to the gradebook.

*The activity will be complete before the date in the course syllabus or a score of "0" will be recorded. The ECG Learning Exercise is due at 5:00 pm on the date listed in the syllabus and calendar. You will have two (2) attempts to achieve a high grade. Any attempt after two will not be considered or graded.*

### **Charting & Pharmacology Assignment - 15%**

*There are two parts to the assignment for this unit.*

**HIPAA requirement:** Do not place ANY patient name or other identifying information on your assignment. Any information that appears on an assignment, other than yours will be considered a HIPAA violation and the assignment will receive a grade reduction equivalent to one letter grade. (You may put Patient A or Patient X to differentiate between patients).

**Part 1: (Patient Charting):** Using the ISBAR (page 25,7th edition), PIE, SOAP, or basic narrative (see examples in learning module) to chart *ANY FOUR PATIENT* procedures YOU perform at your workplace (EX: CT chest w/contrast, ankle x-ray, IVU, US abdomen, radiation therapy brain, etc.). Do not forget to add a date, time, signature and credentials to each of the four patient procedures you chart (page 25, 7th ed.). To "sign" your chart entry change the font to a cursive or script for the signature. Suggested fonts are **Lucida Calligraphy** or **Freestyle Script**. See following examples

Lucida Calligraphy Ex. *Jane Doe, R.T.(R).*

Freestyle Script Ex. *Jane Doe, R.T.(R).*

**Part 2 (Medication Information):** Find one medication listed in any patient chart, you may even use the package insert from a medication. Locate a [Physician's Desk](#)

[Reference \(PDR\)](#), or any suitable reference and provide the following information in the clearly labeled sections seen below.

- Trade/Brand Name (If more than one type, injection liquid, tablet, specify which one you are using).
- Drug Manufacturer
- Generic Name
- Designated Chemical Name (chemically known as) or Empirical Formula
- Drug Classification (narcotic, analgesic, etc.)
- Indications (what is it used for)
- Contraindications (when should the drug absolutely not be used)
- Adverse reactions (summarize if needed)
- Dosages
- Methods of drug administration

NOTE: If you are using a source other than the PDR for the medication portion of this assignment, please state the package insert or the URL of the website where you got your information.

#### **Submitting the assignment:**

The student can upload the work and submit it as ONE file to the assignment dropbox in Unit 3. This assignment requires a 7th edition APA title page.

*Note:* Assignments turned in are considered completed assignments and will be graded accordingly. Review your work to that of the assignment criteria prior to submitting the assignment.

#### **Cultural Communication Assignment - 15%**

The goal of this assignment is to research a culture that is unfamiliar to you. You are to describe how you would communicate to someone of that culture when performing a diagnostic examination.

Although the Hispanic culture is an interesting culture to research, this culture constitutes the majority minority of this area and region of Texas and perhaps other areas of the country. To avoid replication of this assignment, I am limiting research of the Hispanic culture, or any other culture, to five (5) reports. If the culture you choose speaks predominately English, use the culture's secondary language as the language in which the patient communicates. Approach this assignment as if the patient and you as the technologist are speaking different languages and you have to communicate.

*Please note: Do not choose a culture that you may be a part of or know a great deal about. This defeats the purpose of the assignment.*

All cultural topics must be approved before you begin to start your research. Students must get the topic of their cultural report approved by the instructor prior to beginning this assignment. **E-mail the instructor with your topic. When your topic is approved, it will appear in the course content. Check the listing often. Once a culture has 5 names associated, that culture will be closed.** Instructor will respond with approval or disapproval. Please check the calendar and the course schedule for the due dates for posting of the culture and assignment.

With the information you find and information from your textbook, supplemental notes, and internet websites (not Wikipedia), address the following: All bullet points must be addressed **in clearly labeled sections.**

- Give a brief introduction of your culture and demonstrate awareness of cultural taboos and norms, health beliefs and practices, and nature of relationships within the family.
- Describe verbal, non-verbal, and culturally competent communication skills that will aid you in developing trust between you and your patient. Discuss signs of demonstrating respect or disrespect? Include the use of speech, body language, touch, and space that could be used to communicate with your patient.
- Describe how you would obtain an allergic history (or other type of history). Include obstacles you may encounter if the patient was of the opposite sex. With the information you researched, especially the cultural taboos, what methods would you use if **you did not have the luxury of using any form of translator?**
- Select a diagnostic procedure of your choosing and explain the procedure to a patient of this culture using the information you have just researched. With the information you researched, especially the cultural taboos, what methods would you use if **you did not have the luxury of using any form of a translator?**

### **Format**

The paper should follow guidelines of the American Psychological Association. It is recommended that you obtain a copy of the 7th edition APA publication manual. You can also find helpful tips in the APA Help folder on the course homepage or you can go to the OWI at Purdue for helpful information.

The paper:

- must have a 7th edition APA formatted MSU cover page
- is to be a single Word document only
- 2-4 pages, NOT including the title and reference page
- double spaced,
- 1" margins
- Times New Roman, Arial, or Calibri 12 point font
- References appropriately cited *in the text* of the paper according to APA guidelines see APA 7<sup>th</sup> ed chapter 8.

- A *minimum of two APA formatted references* submitted on a separate references page.
- The paper **MUST** have clearly labeled sections.

### **Submitting the assignment:**

Submit the assignment in the Unit 4 Dropbox area of the Unit 4 Module by attaching the assignment as a single WORD document. Assignment is due by the deadline listed in the syllabus. Before downloading the assignment to the drop box, Please double check that the file says .doc or .docx. **DO NOT** submit anything with the suffix .pages.

The paper will be graded on correct APA usage, content (make sure to complete the four instructions above), grammar, tone (informal or formal), and format (including cover page).

*Note: Assignments turned in are considered completed assignments and will be graded accordingly. Review your work to that of the assignment criteria prior to handing in the assignment.*

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

The final examination is a "closed book", comprehensive examination of multiple-choice format. The final is to be delivered through lockdown browser on D2L. All students are **REQUIRED** to have a webcam for the Final Exam. Please make sure you have a strong WiFi or internet connection. **If you choose to take your final after business hours note that technical issues cannot be resolved by Distance Ed. or IT. I will not be able to resolve those issues as well.**

**Please note:** All smart devices including watches will not be allowed during the final. NO exceptions

Students must complete the final (and all course work) by the dates published in the course schedule. There will be NO alteration of any type to this schedule. Extenuating circumstances may be discussed and an alternative arrangement may be made at the discretion of the instructor.

*Note: Any decision by the instructor is final and there will be no further changes made.*

The unit objectives, study guides, and examinations can be utilized to review for the final.

### **Technical problems**

- If you are disconnected during your exam, you must immediately send an email to your professor.
- \*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.
- A 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. If this occurs, I will have to reset your attempt. Resetting will delete any questions and answers that you have already completed. In essence, you will be getting a new exam and starting over.

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.

<b>RADS 3213 Spring 2020 Course Schedule</b>	
<b>Date</b>	<b>Activity</b> <i>* Note: These are Central Times*</i>
Monday, August 23	Classes Begin
Monday, August 23	Unit One through Unit Five quizzes available <b>August 23 @ 8 am</b> . All quizzes expire <b>November 30</b> at 5:00 pm
Monday, September 6	Cultural Communication <b>Topic (found in module 4) Due on or before 9-6-21 at 8 am</b> E-mail instructor with topic for approval.
Monday, September 20	Pt Assessment assignment <b>Due on or before September 20 at 8:00 am</b>
Monday, October 11	ECG Learning Exercise (found in module 2) <b>Due on or before 10-11-21 at 8 am</b>
<b>Monday, October 25</b>	<b>Last day to withdraw from courses with a "W", 4 pm</b>
Monday, November 1	Charting Exercise Part 1 and 2 (found in module 3) <b>Due on or before 11-1-21 at 8:00 am</b>
Monday, November 22	Cultural Communication Exercise <b>Due on or before 11-22-2021 at 8:00 pm</b>

<p>Final Exam available <b>December 6 at 8 am through lockdown browser with webcam.</b></p>	<p><b>Expires on December 8</b> at 5 pm Central. Make sure you have made proper arrangements with whomever you need to in order to complete the final. After business hours test takers, please note that there will be no technical help in case of computer problems. Make sure you have a strong</p>
<p>Please note: The exam expires at <b>5 pm</b> Central on August 4. You should start the exam at <b>3 pm</b> to allow for enough time to complete the exam by <b>5pm.</b></p>	<p>WiFi or internet connection.</p>

Course Number: RADS 3773 x 12                      3 credits                      Fall 2021

Course Title: Radiobiology & Protection

Instructor: Robert Comello, MS, RT(R)

Centennial Hall, Office 430E

Office: (940) 397.4801

Fax: (940) 397.4845

Email: [robert.comello@mwsu.edu](mailto:robert.comello@mwsu.edu)

### Course Overview

A study of the theories and principles of the interactions of ionizing radiation with biological systems, acute and long-term effects of ionizing radiation exposure, typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure in both the diagnostic and therapeutic settings.

### Course Objectives

Upon completion of this course the student will be able to:

1. Explain the effects of radiation exposure on biological systems.
2. Describe the biophysical mechanisms of radiation damage and the somatic and genetic effects of radiation exposure on humans.
3. State typical dose ranges for routine radiographic procedures
4. Explain basic methods and instruments for radiation monitoring, detection and measurement
5. Identify methods for protecting personnel and patients from excessive radiation exposure
6. Apply appropriate radiation protection practices.

Unit objectives are located at the beginning of each chapter of the text. Please utilize these to assist you in your study of the unit materials.

### Required Textbook

Statkiewicz-Sherer, M.A., Visconti, P. J., Ritenour, E. R., & Haynes, K. W. (2014). *Radiation protection in medical radiography* (8<sup>th</sup> ed.). St. Louis, MO: Elsevier Mosby.

### Additional Resources (Utilize as needed to supplement textbook)

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (7<sup>th</sup> ed.). Washington, DC: American Psychological Association. [ISBN 978-1-4338-3216-1]

Bushong, S. C. (2008). *Radiologic science for technologists* (10<sup>th</sup> ed.). St. Louis, MO: Elsevier Mosby.

Seeram, E. (1997). *Radiation protection*. Philadelphia, PA: Lippincott.

Travis, E. L. (2000). *Primer of medical radiobiology* (2<sup>nd</sup> ed). St. Louis, MO: Elsevier Mosby.

**A scientific calculator is highly recommended.**

### Communication with Instructor

Contact information for the instructor is listed at the beginning of this syllabus. **Email is the instructor's preferred mode of communication.** 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).

**When emailing the instructor, please include your full name, course and section number, and a thorough explanation in your message. This will help expedite your request or needs.**

The student should also periodically check the News section within D2L for course updates and other important information.

## Teaching Strategies

Independent reading assignments, Desire to Learn (D2L) open book unit quizzes, discussion board activities, development of an annotated bibliography, and a proctored, comprehensive final examination within D2L.

## Evaluation

Unit Quizzes	30%
Annotated Bibliography	20%
Discussion Participation	15%
Comprehensive Final Exam	35%

## Grading Scale

A	90-100
B	80-89
C	70-79
D	60-69
F	59 or below

**\*\*Please note this course requires a grade of "C" (70) or better in order to be considered passing. \*\* This instructor does NOT round up the final course grade average or give extra credit.**

**The last opportunity to drop this course with a grade of "W" is 4:00 pm on October 25, 2021.** 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."

## 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. See the course calendar in the syllabus and within D2L for specific information about activities and due dates. This course is designed to give adequate time to complete all assignments and quizzes in a timely manner. It is **NOT** recommended that you wait until the last minute to submit an assignment, quiz or discussion board post. Technical problems can occur. If you wait until the last minute and you run into a problem, **DO NOT** send anything to me as an e-mail attachment. I will not accept it and a grade of zero will be recorded for that activity.

### Summer semester:

when this course is offered during the summer semester 1, classes are Monday through Thursday. All university offices are closed on Friday.

### Independent Reading Assignment

- Unit 1: Chapters 1, 2, and 3
- Unit 2: Chapters 4 and 5
- Unit 3: Chapters 6 and 7
- Unit 4: Chapters 8 and 9
- Unit 5: Chapters 10, 11, and 15
- Unit 6: Chapters 12, 13, and 14

\*Supplemental files and activities are available within D2L to reinforce major topics in the reading assignments.

### Pp Unit Quizzes (30%)

Please note:

There will be no proctor for the final. Lock down browser with webcam will be utilized for all examination. Please be sure to check that your webcam, microphone and a strong and reliable WiFi is working with lockdown browser. Also, **Lockdown browser does not work with Chromebook.**

When a student has reviewed a unit and is ready for the quiz, he/she will log into D2L and receive a customized quiz consisting of random multiple-choice questions. See the course calendar in the syllabus and within D2L for due dates. Since the quizzes are timed, it is important to know the unit content before attempting the quizzes. Students will have **30 minutes** to complete the **25 question** quizzes. Lockdown browser will be utilized for all of the unit quizzes.

Lockdown browser with a webcam will be utilized for the final. Make sure your webcam is in good working order. Quiz scores will be available immediately after a student submits his/her quiz for grading. **No late submissions will be accepted.**

## <! Annotated Bibliography (20%)

An annotated bibliography is a list of citations for books, articles, and documents. Each citation is followed by a brief (usually 150 words) descriptive and evaluative paragraph known as the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the sources cited. Creating an annotated bibliography calls for the application of a variety of intellectual skills: concise exposition, succinct analysis, and informed library research.

First, locate and record citations for **three (3) peer-reviewed articles in scholarly academic journals** that contain information relevant to this course (ionizing radiation, biological effects, etc.). All three articles should have a common theme. **These three articles must be published within the last five years.** Cite the article using the proper **APA** format. **Note: An APA formatted title page must be included with this assignment.**

**Write a concise annotation that summarizes the central theme and scope of the article.** You must also discuss **one** of the following for each annotation:

- Evaluate the authority or background of the author.
- Comment on the intended audience.
- Compare or contrast this work with another you cited.
- Explain how this work illuminates your bibliography topic.

More information, the rubric, resources, and the due date are available within D2L under "Course Resources" and "Annotated Bibliography." This assignment is due on the date listed in the course calendar. **All submissions are considered complete and will be graded as such. Late assignments will not be accepted and a grade of zero (0) will be recorded.**

## Discussion Board Participation (15%)

There is a discussion topic for each unit. Students must post **one (1)** original post in response to **EACH** unit discussion question. **Please note the deadline for submitting your response is different from the date the forum closes. Check the schedule at the end of the syllabus for dates.** Each student will be responsible for replying to questions/comments made to his/her original post. Students must also respond to at least **two (2)** postings from other students for each unit. **Students must also monitor the two or more responses to other posts. If someone asks or comments on something to which you posted on another student's discussion, you should be courteous enough to answer that person.** This is continued facilitation of a discussion and it is on the rubric. Spelling, grammar, and substance really do count. Try not to veer off

subject, and be respectful and considerate of your fellow students' submissions. Students must post responses by the deadlines to receive credit.

**What is a discussion-type question?** A discussion-type question is one that does not necessarily have a right or wrong answer, unlike a factual question. It facilitates the exchange of knowledge and thought. On the other hand, if asked for the sum of  $2 + 2$ , the answer is four. This is a fact and there is no room for discussion. There is a right answer and an unlimited number of wrong answers.

**What is a meaningful response?** A meaningful response is one that contributes to or, in some way, sheds new light on the discussion. "I agree with the others..." is an example of a meaningless response.

The forums are designed to encourage interaction between students. Have fun with this activity but take it seriously because it does contribute to your course grade. **All Unit Discussions MUST be submitted by the published due date (see the course calendar). No late submissions.**

## < Comprehensive Final Exam (35% )

### **Please note:**

There will be no proctor for the final. Lock down browser with webcam will be utilized for all examination. Please be sure to check that your webcam, microphone and a strong and reliable WiFi is working with lockdown browser. Also, **Lockdown browser does not work with Chromebook.**

The final examination is a comprehensive examination consisting of multiple-choice questions. The final exam is a timed, 120-minute test containing 100 questions that will be administered within D2L via lock down browser. **The final is a closed book examination. You will be allowed to use a calculator (scientific is preferred) and one blank sheet of paper. Lockdown browser with webcam will used during the final.** Students must complete the final (and all course work) by the dates published in the course calendar within D2L. **Please note:** Any smart device including smart watches will not be allowed during the final exam.

### **Attendance**

Since this is an online course, there are no mandatory face-to-face sessions. However, the student should be vigilant in logging onto D2L. Regular checks will insure messages from the instructor are received in a timely manner. See the course calendar in D2L for specific information about activities and due dates. The instructor is available to meet face-to-face with any interested students. Please email the instructor to schedule an appointment.

### **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. 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 Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Disability Support Services in Room 168 of the Clark Student Center, (940) 397-4140.

### **Honor System**

RADS 3773 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.

Many components of RADS 3773 are designed to be highly interactive with students helping each other learn. Students are encouraged to take full advantage of many resources available including online D2L course resources, Internet sites, other textbooks and journals, faculty, and

peers when answering objectives. This interactive collegial learning environment is conducive to life-long learning.

Specific components of RADS 3773 are designed to represent the efforts of each student individually and are not to be shared or copied (plagiarized) from other sources. These components include the unit exams, discussion board activities, annotated bibliography, and the comprehensive final exam. When students submit their efforts for grading, they are attesting they abided by this rule.

Cheating includes, but is not limited to: (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or completing other assignments; or (3) 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 on 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. Students are encouraged to review the tutorials and suggested websites for more information about plagiarism. Papers and other assignments may be submitted to an external agency for verification of originality and authenticity.

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, the student should ask the instructor for clarification. If students are guilty of academic dishonesty, a grade of zero (0) may be given for the quiz, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

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 not limited to: the right to reproduce the student's work product in order to verify originality and authenticity as well as for educational purposes. Specifically, faculty may submit student papers and assignments to an external agency to verify originality and authenticity to detect for plagiarism.

### **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. **Interim** Department Chair: Dr. Beth Veale (940) 397.4611

2. College Dean: Dr. Jeff Killion (940) 397.4594

3. Dean of Students: Matthew Parks (940) 397.7500

Course Calendar and Important Dates

Date	Activity/Assignment/Exam
<b>Monday, August 23</b>	First day of classes. Review course syllabus
<b>Monday, August 23</b>	Unit 1 – 6 Quizzes open at 7 AM  All unit quizzes will close at 5 pm (Central) on November 30.
<b>Monday, August 30</b>  <b>Monday, September 13</b>	<b>Unit 1 original posts due at 8 am</b>  Unit 1 Discussion Board extra postings and responses due at <b>5 PM</b>
<b>Monday, September 13</b>  <b>Monday, September 27</b>	<b>Unit 2 original posts due at 8 am</b>  Unit 2 Discussion Board extra posts and responses due at <b>5 PM</b>
<b>Monday, September 27</b>  <b>Friday, October 11</b>	<b>Unit 3 original posts due at 8 am</b>  Unit 3 Discussion Board extra posts and responses due at <b>5 PM</b>
<b>Monday, October 11</b>  <b>Friday, October 25</b>	<b>Unit 4 original posts due at 8 am</b>  Unit 4 Discussion Board extra posts and responses due at <b>5 PM</b>

<b>Monday, October 25</b>	<b>Last day to withdraw from this course with a "W" Deadline is 4 pm</b>
<b>Monday, October 25</b>	<b>Unit 5 original posts due at 8 am</b>
<b>Monday, November 8</b>	Unit 5 Discussion Board extra posts and responses due at <b>5 PM</b>
<b>Monday, November 8</b>	<b>Unit 6 original posts due at 8 am</b>
<b>Monday, November 22</b>	Unit 6 Discussion Board extra posts and responses due at <b>5 PM</b>
<b>Monday, November 29</b>	<b>Annotated Bibliography assignment due on or before Monday, November 29 by 8 am</b>
<b>Tuesday, November 30</b>	All unit quizzes close at <b>5 pm</b>
<b>Monday, December 6</b>	Final Exam Opens at <b>7:00 AM</b>
<b>Monday, December 8</b>	Final Exam Closes at <b>5:00 PM** Note the time. See note below.</b>

\*All times are CST (Central Standard Time) on the date indicated.

**\*\* Note:** This is a timed test of two hours in length. The final closes at 5 pm however you need to log in prior to **3 pm** on that day to ensure you have enough time to complete the test.