Course Number:  RADS 3773  3 credits  Summer 2012

Course Title:  Radiobiology

Faculty:
Section x30, x31
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Note about Summer Semester
The summer semester is only 10 weeks long.

Midwestern State University is observing a summer work schedule. Through August 10, the Radiologic Sciences main office is open from 7 a.m. to 6 p.m., Monday through Thursday and closed on Friday.

I will not hold traditional office hours during the summer semester; however, I will be available via email and cell. Do not hesitate to email or call me on my cell phone.

Course Overview:
This course will provide the radiologic science professional theories and principles of the interaction of ionizing radiation with living systems. Radiation affects on biologic molecules & organisms and factors affecting biological response are explored. Acute and long-term effects of ionizing radiation exposure are discussed. Applications in diagnostic and therapeutic settings are presented.

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

- Apply scientific principles of cell biology.
- Identify basic biologic interactions of ionizing radiation with living cells.
- Summarize human cellular response to ionizing radiation.
- Explain living tissue radiation biology.
- Discuss modification of living cells and tissue responses to ionizing radiation.
- Describe radiation pathology in relationship to human systems, organs, or structures.
- Explain total radiation response to the human adult, child, fetus, and embryo.
- Summarize late effects of ionizing radiation on humans.
- Apply radiobiology theories and models to diagnostic and therapeutic practices.
- Conduct research related to ionizing radiation and its impact on living tissue.
Textbooks:


Additional Resources: (utilize as needed to supplement textbook and modules)

Study Guide available on BlackBoard

**Special Note:** The study guide will consistently refer to a particular chapter and page of the textbook related to the content being presented in the module. For ease of referencing the textbook location will be identified in the module by placing the chapter first and the page number second. These will be in a parenthesis at the appropriate location in the module. For example chapter one, page one will be identified in this manner (ch.1, p.1).


Teaching Strategies:

Independent reading assignments, BlackBoard module exams, participation in individual and group article activity to include development of PPT presentation, and proctored BlackBoard final examination.

Attendance:

This is an online course and there are no mandatory sessions. However, the student should be vigilant in logging onto BlackBoard. Regular checks will insure that messages from the instructor are received in a timely manner.

Evaluation:

<table>
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<tr>
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<th>Percentage</th>
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<tbody>
<tr>
<td>Module Exams</td>
<td>35%</td>
</tr>
<tr>
<td>Article Activity</td>
<td>30%</td>
</tr>
<tr>
<td>Comprehensive Final</td>
<td>35%</td>
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</tbody>
</table>

Grade Scale:

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

The last opportunity to drop this course with a grade of "W" is 4:00pm TBA. 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 Schedule at the end of the syllabus for specific information activity due dates.

Orientation Exam
Students must complete the orientation exam with a grade of 100 before the module exams, assignment submission forums, and the final exam will appear.

Module Exams
Students should complete the reading assignments, answer the chapter objectives, review the Internet resources, and review the questions at the chapter end before attempting the open book module exams. When a student has reviewed a module and is ready for the exam, he or she will log on to BlackBoard and receive a customized timed module exam consisting of randomized multiple choice questions. Students may take exams ahead of schedule but MUST complete them by the scheduled deadlines on the Course Schedule at the end of this syllabus.

It is important to know the module content before attempting the module exams because they are timed. Each Module Exam contains 20-25 minutes and have a duration time of 45 minutes. Exam scores will be available immediately after a student submits his or her exam for grading. Exam questions submitted after the allotted time of 45 minutes will not be considered “not answered.”

Exams must be completed by the close date as indicated on the course schedule. Exams must also be completed within the allotted duration time. Missed exams will be assigned a grade of zero.

If students have technical difficulties during a exam, they should use the “Technical Help” link on the Home Page or on the toolbar on the left side in BlackBoard, contact the MSU Information Systems Support Staff, and send an email to the course instructor explaining what happened.

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

- Module Exam Number (I–VI)
- 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

For example, a student cannot send the message “I think question number ten is wrong on exam four” because each student gets an exam of randomly generated test items. The instructor has to know the question stem to find the question in the database.

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

This is a three part assignment: THINK-PAIR-SHARE.

THINK: Read your assigned article and provide your reflections within the appropriate assessment by the due date indicated on the course syllabus.

PAIR: Discuss the article and your reflections with your assigned partner. Exchange and compare your ideas. Provide your collaborative reflection to the appropriate dropbox by the due date indicated on the course syllabus.

SHARE: Discuss the article with your assigned group within the appropriate discussion board. Create a PowerPoint presentation on the article and your reflections to share with the class. The collaborative presentation must address the following information:

- Appropriate APA citation of the article
- An overview of the article in a way that radiology professional would easily understand
  - The main points of the introduction
  - The research question and hypothesis, if applicable
  - The significance of the article
  - The main points of the discussion
  - Identification and definitions of key terms
- How this article is or is not relevant to the class
- How this article is or is not relevant to the profession
- Personal impression(s) of the article

Cognitive skills developed during this activity: Applying, Understanding, Creating, Evaluating, Analyzing

Comprehensive Final Exam

The comprehensive proctored closed-book final exam will be administered using BlackBoard. Each student must have a proctor and test site approved by the course instructor before taking the exam. Students are not allowed to print the final exam.

Proctor Guidelines and the Proctor Application form are available from BlackBoard. The MSU Radiologic Sciences department now uses a standardized protocol and proctor application:

1. Read the proctor guidelines and contact a local testing center to serve as your proctor.
2. Print or email the guidelines and give a copy to your proctor when scheduling your final exam.
3. Complete parts 1 and 2 on the proctor application.
4. Email the proctor application form to your proctor.
5. The proctor needs to complete part 3 and email the completed proctor application to the course instructor.
Department Policies

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

When emailing the instructor, you must use the following subject header:

3773_your last name_topic of message

Example: 3773_Smith_Exam 4

The instructor will be available to meet face-to-face with any interested students at a designated time and place that will be announced on BlackBoard after the start of classes. This meeting is optional and must be confirmed by email ahead of time with the instructor.

This course will also include an UNGRADED Discussion Board on BlackBoard. There will be three main sections, one section for questions for the instructors, one for instructor announcements, and one section for social messages. Students may post questions they want the instructor to answer on the Discussion Board and the instructor will respond so that the entire class will benefit from the answers.

It is imperative that students log on weekly so that important announcements are not missed.

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. Donna Wright (940-397-4615)
2. College Dean – Dr. Patti Hamilton (940-397-4594)
3. Dean of Students – Dail Neely (940-397-6273)

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 BlackBoard course resources, Internet sites, other textbooks and journals, faculty, and peers when answering objectives. This interactive collegial learning environment is conducive for 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. 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 exams, 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, 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 exam, assignment, etc. Cases may also be referred to the Dean of Students for possible dismissal from the university.

**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 product 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.*

**Special Needs:**

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

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

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

The Director of the Counseling Center 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.
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<thead>
<tr>
<th>Suggested Weekly Activity</th>
<th>Date</th>
<th>Course Activity Due</th>
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<tbody>
<tr>
<td>Read course syllabus and get familiar with Blackboard</td>
<td>May 29</td>
<td>Classes Start</td>
</tr>
<tr>
<td>Complete the Orientation Exam</td>
<td></td>
<td>The Orientation Exam must be successfully completed before module exams, assignment submission forums, and the final exam will appear</td>
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<tr>
<td>Read assigned article</td>
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<tr>
<td>Submit THINK assignment</td>
<td>June 5</td>
<td>Modules 1 and 2 Open</td>
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<tr>
<td>Work on Module 1</td>
<td></td>
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<tr>
<td>Submit Module 1 Exam</td>
<td>June 12</td>
<td>Article Assignment – THINK part</td>
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<tr>
<td>Work on Module 2</td>
<td></td>
<td>PAIR Partner Assigned by Instructor</td>
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<tr>
<td>Collaborate with PAIR partner</td>
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<tr>
<td>Submit Module 2 Exam</td>
<td>June 19</td>
<td>Modules 3 and 4 Open</td>
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<tr>
<td>Work on Module 3</td>
<td></td>
<td></td>
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<tr>
<td>Submit PAIR assignment</td>
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<tr>
<td>Submit Module 3 Exam</td>
<td>June 26</td>
<td>SHARE Group Assigned by Instructor</td>
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<tr>
<td>Work on Module 4</td>
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<tr>
<td>Collaborate with SHARE group</td>
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<tr>
<td>Submit Module 4 Exam</td>
<td>July 3</td>
<td>Article Assignment – PAIR part</td>
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<tr>
<td>Collaborate with SHARE group</td>
<td></td>
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<tr>
<td>Work on Module 5</td>
<td>July 10</td>
<td>Module 5 Opens</td>
</tr>
<tr>
<td>Collaborate with SHARE group</td>
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<tr>
<td>Submit Module 5 Exam</td>
<td>July 17</td>
<td>Proctor Application</td>
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<tr>
<td>Collaborate with SHARE group</td>
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<tr>
<td>Study for Final Exam</td>
<td>July 24</td>
<td>All Exams Close</td>
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<tr>
<td>Submit SHARE project</td>
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<td>Article Assignment – SHARE part</td>
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<tr>
<td>Ace Final Exam!!!</td>
<td>July 31 (8am) – August 2 (3pm)</td>
<td>Comprehensive Final Exam</td>
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<td></td>
<td>All exams must be completed before taking the final exam.</td>
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