

**Course Title:**

**RAD-288 Radiography IV**

Credits: 3  
(Lecture 2, Lab 3)

**Course description & learning objectives:**

The purpose of this class is to prepare you for the responsibilities of a working radiologic technologist. This includes: knowing and understanding the effects of radiation on the human body, understanding and completing quality control for radiation producing equipment.

**Topics covered:**

(Reference ARRT Content Specs Jan 2017)

1. SI Units of Measurement
2. Radio sensitivity
3. Somatic Effects
4. Radiation syndromes
5. Genetic impact
6. Embryonic & Fetal risk
7. Radiation Protection including:
  - a. Filtration
  - b. Shielding
  - c. Protective devices
  - d. Quality control
8. Radiation Exposure
  - a. Personnel monitoring
  - b. Exposure limits
9. Introduction to Modalities
  - a. CT
  - b. MR
  - c. Nuclear Medicine

- d. Mammography
- e. Radiation Therapy

### **Expectations:**

A PowerPoint or document will be provided to you via email and Moodle classroom at the start of the week. It is my expectation that you look over the documentation in preparation for the class. I am not asking you to completely understand it prior to review, but to have an idea of what topics are going to be discussed.

We will utilize the beginning of class to go over any outstanding information from the week prior. This is your opportunity to ask questions or provide feedback as it relates to the lesson.

### **Tools & Resources:**

We will be utilizing Moodle classroom to provide a center for communication and testing. Any updates will be posted to Moodle and emailed to your Bergen.edu emails.

Kahoot and quizlets will be made available to you throughout the semester to help refresh and retain information.

Books that will be referenced throughout the semester will include:

*Essentials of Radiologic Science*, R. Forsbinder & D. Orth

ISBN 10 – 078177554X

ISBN 13 – 9780781775540

*Principles of Radiographic Imaging An Art and A Science*, 6<sup>th</sup> edition, R. Carlton, A. Adler, & V. Balac

ISBN 10 – 1337711063

ISBN 13 – 9781337711067

*Mosby's Comprehensive Review of Radiography*, 7<sup>th</sup> edition, W. J. Callaway

ISBN 13 - 9780323354233

Week 1		Introduction to cellular biology
Week 2		Cellular Proliferation
Week 3		Tissue & Organ Systems
Week 4		Cellular Survival
Week 5		Radiation Effects & Exposures
Week 6		Radiation Effects Continued
Week 7		Systemic Responses to Radiation
Week 8		Midterm Exam
Week 9		Spring Break – No Class
Week 10		Radiation Protection
Week 11		Quality Control
Week 12		Quality Control Continued
Week 13		Minimizing Exposure
Week 14		Modalities
Week 15		Modalities
Week 16		Final Exam
Week 17		** Make Ups as Needed **

### **Exam and Quiz policies:**

All assessments will be given via Moodle classroom with Lockdown browser. It is expected that you complete the assessment in a timely manner. All quizzes will have 2 attempts with the average grade being taken. A missed quiz will result in a 0 for the quiz.

A weekly quiz will be administered during week 2 to week 7 and week 10 to week 15. This is a total of 11 quizzes that will be averaged together into one grade. Quizzes are due by Friday at 11:59PM.

A cumulative midterm and cumulative final will be given on week 8 and week 16 respectively. Each exam can only be attempted once.

Exams will be given during the scheduled class time on Thursdays 9:00AM to 11:00AM. Per ARRT standards, you will be given approximately 1 minute 5 seconds per question.

Important: Should you encounter technical difficulties that do not allow you to take a quiz/exam, please notify me immediately with an email and picture of the problem. I understand that Moodle can act up or there are issues out of your control. It is good practice to document the occurrence as best as possible.

### **Laboratory Policy:**

Students are expected to attend laboratory on time and prepared to master their skills prior to the registry. Students should be ready to review any positioning that's has been covered through the program. This is an opportune time to ask for additional in person help. Students will be asked to critically think and master concepts they may find in real world applications.

When your laboratory group is not scheduled, a review assignment will be assigned. Explicit due dates will be given with each assignment. Early completion will be accepted and reviewed to allow for an improved score.

### **Grading:**

Your grades will comprise of the following scores averaged together:

25% – Quizzes / Assessments / Assignments

30% – Midterm Exam

30% – Final Exam

15% – Laboratory Grade

The syllabus is subject to change. Any major changes will be posted to Moodle and require an acknowledgement of receipt.

