



Course Syllabus
SEMESTER
School of Nursing and Health Professions

What is it? Here is the Answer!

Course Name:	Radiologic Technology V
Course & Section Number:	RAD 213-XXX
Meeting Day(s) & Time(s):	
Credits:	2
Contact Hours:	1.5 lecture, 1.5 lab
Instructor's Name:*	
Student Hours (Formerly Office Hours) & Location:	
OCC Email:**	
Additional Contact Information:	

**Please only use your student OCC email to contact me.

Catalog Description:

RAD 213 - Radiologic Technology VI

Provides an introduction to invasive diagnostic/interventional imaging techniques.

Pharmaceuticals as they relate to medical imaging are discussed. Offers a workable knowledge of patient assessment techniques and medical charting and documentation as it applies to medical imaging. Explores medical/legal issues in medical imaging. Laboratory experiments relating to radiographic quality and image evaluation are conducted.

Co-requisite: RAD 203

Prerequisite: RAD 114

Credits: 2(Lec: 1.5 Lab: 1.5)

School: Schl of Nrs & Hlth Professions

Department: Medical Imaging Technologies

Attributes: General Elective

Course Materials:

1. INTRODUCTION TO RADIOLOGIC & IMAGING SCIENCES & PATIENT CARE

ADLER, ARLENE M.; CARLTON, RICHARD R.

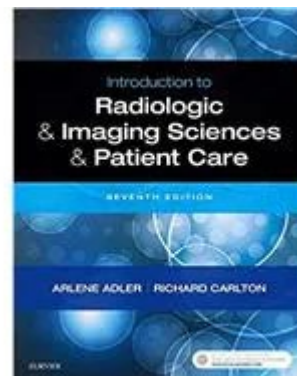
ISBN13: 9780323566711

EDITION: 7TH

FORMAT: PAPERBACK

PUBLISHER: W B Saunders Co

COPYRIGHT: 10/29/2018



2. PRINCIPLES OF RADIOGRAPHIC IMAGING AN ART AND A SCIENCE

CARLTON, RICHARD; ADLER, ARLENE; BALAC, VESNA

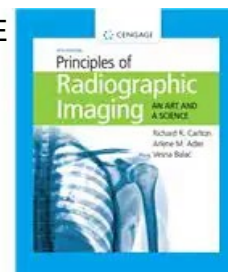
ISBN13: 9781337711067

EDITION: 6TH

FORMAT: HARDCOVER

PUBLISHER: Cengage Learning

COPYRIGHT: 1/3/2019



3. Callaway, W., Comprehensive Review of Radiography, 8th Edition, Mosby Elsevier, Philadelphia, 2022.

4. RAD 213 Lab Manual. Owens Community College (Provided Online)

5. Windows Computer with Respondus Lockdown Browser Installed and Web-Cam Access for on-line testing

OER and Owens Community College Library Resources (Open Educational Resources are free online materials for instructor and student use. Some OER material may be available in print in the Owens Community College Library.)

What Will I Learn in This Course:

Course Objectives:

The course

1. Presents information on medical/legal issues and the use of pharmaceuticals in medical imaging.
2. Introduces students to the equipment and procedures for invasive diagnostic and interventional studies.
3. Explores patient assessment at a physical, emotional, and societal level.
4. Provides applied experiences in a laboratory setting to evaluate in radiographic image contrast and Receptor Exposure.

Student Learning Outcomes:

Student will...

The student will:

1. Discuss the medical/legal responsibilities of the radiographer pertaining to patient care, contrast injection, medical charting and documentation.
2. Define the key aspects and ramifications of biopharmaceutics and pharmacokinetics.
3. State the correct application of several routes of drug administration.
4. Identify and describe the use of pertinent medications and several lab tests findings in medical imaging.
5. Identify and describe the various pathologic conditions and the diagnostic procedures that commonly affect the vascular system.
6. Identify types and uses of equipment utilized in vascular and nonvascular diagnostic testing.
7. Identify and explain vascular and nonvascular interventional procedures and equipment and the patient care concerns during these procedures.
8. List the purpose, advantages and limitations of patient assessment techniques and apply the assessment process to imaging scenarios.
9. Demonstrate responsible and ethical patient care skills using research and problem-solving skills in a patient assessment exercise.
10. Demonstrate the ability to communicate orally when presenting project.
11. Understand the impact of window level (WL) and window width (WW) adjustments on image contrast, brightness, and diagnostic quality.
12. Analyze the relationship between Dose Area Product (DAP), patient dose, and image quality.
13. Investigate how variations in milliamperage (mA), exposure time, mAs, and Source-to-Image Distance (SID) affect receptor exposure and image quality.
14. Assess the effects of beam restriction and kVp on receptor exposure, image contrast, and patient dose.

Outcome	Where Assessed (List assignments, exams, discussions; items must be graded.)
Discuss the medical/legal responsibilities of the radiographer pertaining to patient care, contrast injection, medical charting and documentation.	Imaging Professionals and Pharmacology, Notecard Quiz #1 Worksheet #1 TEST #1 Final

Define the key aspects and ramifications of biopharmaceutics and pharmacokinetics.	Biopharmaceutics, Pharmacokinetics & Pharmacodynamics QUIZ #1 Worksheet #2 TEST #1 Final
State the correct application of several routes of drug administration.	Drug Administration Routes/ Asepsis/Isolation Worksheet #3 TEST #1 Final
Identify and describe the use of pertinent medications and several lab tests findings in medical imaging.	Patient Assessment, Part I: Definition and purpose/ Responding to medical emergencies in radiology Importance of laboratory testing in radiologic procedures Emergency Procedures Worksheet QUIZ #2 Test #2
Identify and describe the various pathologic conditions and the diagnostic procedures that commonly affect the vascular system.	Pathologies affecting the vascular system/diagnostic studies. Common vascular and non-vascular interventional studies Note card quiz # 3 Worksheet #6 due Worksheet # 7 due Worksheet # 8 due QUIZ #3 Final
Identify types and uses of equipment utilized in vascular and nonvascular diagnostic testing.	Special interventional procedures, guide wires, catheters, power injectors Notecard Quiz # 2 Quiz #3 Final
Identify and explain vascular and nonvascular interventional procedures and equipment and the patient care concerns during these procedures.	Pathologies affecting the vascular system/diagnostic studies. Common vascular and non-vascular interventional studies Note card quiz # 3 Worksheet #6 due Worksheet # 7 due Worksheet # 8 due QUIZ #3 Final
List the purpose, advantages and limitations of patient assessment techniques and apply the assessment process to imaging scenarios.	Patient Assessment, Part III: Patient Assessment for Technical Factor Selection. Worksheet #5 Quiz #2 Final
Demonstrate responsible and ethical patient care skills using research and problem-solving skills in a patient assessment exercise.	Patient Assessment: Part II- Gathering a complete medical history to aid problem solving. Worksheet #4
Demonstrate the ability to communicate orally when presenting project.	Powerpoint presentation
Understand the impact of window level (WL) and window width (WW) adjustments on image contrast, brightness, and diagnostic quality.	Image Quality Histograms and Look up Tables: Experiments: ONE- Window Level and Window Width: Evaluating Image Contrast and Brightness in Digital Radiography

	NOTE CARD QUIZ WEEK #1 Lab Midterm & Final
Analyze the relationship between Dose Area Product (DAP), patient dose, and image quality.	TWO- Dose Area Product (DAP) and Its Impact on Image Quality and Patient Dose NOTE CARD QUIZ WEEK #1 Lab Midterm & Final
Investigate how variations in milliamperage (mA), exposure time, mAs, and Source-to-Image Distance (SID) affect receptor exposure and image quality.	Receptor Exposure THREE- Lab Experiment: Receptor Exposure – Milliamperage, Time, and mAs FOUR- Effect of SID on Receptor Exposure FIVE- Effects of Beam Restriction on Receptor Exposure NOTE CARD QUIZ WEEK #2 Lab Midterm & Final
Assess the effects of beam restriction and kVp on receptor exposure, image contrast, and patient dose.	Receptor Exposure/Contrast Experiments: SIX –Effects of Kilovoltage (kVp) on Receptor Exposure SEVEN– Effect of the 15% Rule on Contrast and kVp/mAs Relationship NOTE CARD QUIZ WEEK #3 Lab Midterm & Final

Program Outcomes:

The following program outcomes are assessed in this course

Goal 1: Students will be clinically competent.

Goal 2: Students will utilize critical thinking skills.

Goal 3: Students will be able to communicate effectively.

Institutional General Education Competencies:

As a student at Owens Community College, you will take General Education courses as part of your degree program. While specific to the General Education courses, will be reinforced in many of your degree program major courses and may be measured in your capstone course(s) and others as identified.

1. Communicate effectively.
2. Act with professional responsibility.
3. Demonstrate sensitivity to other's beliefs and values.
4. Think analytically, critically, and creatively.

Institution General Education Competency	Where Assessed
Communicate effectively.	Lab Reports
Act with professional responsibility.	Power point presentations, Lab Reports
Demonstrate sensitivity to others' beliefs and values.	Test 1, Test 3, Lab Reports
Think analytically, critically, and creatively.	Lab Reports, Final Exam

Technology, Lab, and File Requirements:

The Blackboard Learning System is an online course environment available for all Owens courses, even those that are not web-based. Blackboard offers students a resource where they can communicate and collaborate with instructors and fellow students outside of the physical classroom. The Radiologic Technologies Department integrates Blackboard into each course, and it is essential for all students to become familiar with the system. Check the STUDENT HELP AND RESOURCES tab on the blackboard shell for information on technical support and Software/Hardware requirements for utilizing Blackboard to complete assignments and communicate with peers and faculty.

Calculators: Please be sure that you have a calculator available as necessary for lecture class and testing sessions. Cell phones/iPads or laptops may be used for testing but may not be used as calculators. When testing, the Respondus calculator will be activated.

Specific download and installation Instructions are posted in Blackboard:

Academic Support

Disability Services Resource Center: If you have a disability or acquire one, you may be entitled to receive reasonable accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to register for accommodations, please contact the Disability Resource Center at 567-661-7007, email disability@owens.edu, visit <https://www.owens.edu/disability/>, or stop by College Hall 124.

Tutoring Services: Owens Community College offers academic tutoring and assistance in a variety of subjects including: accounting, computing, economics, mathematics, science, and writing. For more information go to: <https://www.owens.edu/successcenters/>.

Counseling Services: Counseling Services provides assistance to students experiencing personal, educational, interpersonal/relationship, family, social, or psychological difficulties. If you feel you may benefit from this service, please contact them at counselingservices@owens.edu. More information is at <https://www.owens.edu/counseling/>.

Campus and Community Connections: The Center for Campus and Community Connections (College Hall 123) is a walk-in office created to provide retention support through resource stability initiatives and community connections. Go here for more information: <https://www.owens.edu/connection/> or contact connections@owens.edu

Owens Library: The Owens Library offers two locations (Toledo and Findlay) as well as online resources. For more information visit <https://www.owens.edu/library/>.

Students can find more information on campus resources, student support, student life, and security at this [link](#).

General Information

Student Code of Conduct: All students are expected to follow Owens Community College's [Student Code of Conduct](#), which includes academic honesty, encompassing plagiarism. See the [Board Policy](#) for more information.

Anti-Discrimination and Harassment & Title IX/Sexual Misconduct: All students, faculty, and staff are expected to follow Owens Community College's [Anti-Discrimination and Harassment Policy](#) and the College's [Title IX Policy](#)/Sexual Misconduct Procedures and Guidelines. The College strictly prohibits and will not tolerate harassment, discrimination, intimidation, or hostile/offensive working or learning environments.

Religious Accommodations: A student seeking an accommodation for an absence permitted under Ohio's Testing Your Faith Act must provide the instructor with a written email notice with the specific dates for an absence, and must do so not later than fourteen (14) days after the first day of instruction. Alternative accommodations are not retroactive, and no academic penalty will be imposed for an absence under the policy*. The request for an alternative accommodation will be kept confidential. Students with questions about a religious accommodation under Ohio's Testing your Faith Act may contact the College's Office of Academic Affairs: provost@owens.edu
The policy may be found on the Owens website: [3358:11-2-63 Accommodation](#) for a Student Absence for the Observance of Religious Beliefs and Practices Policy

Document Collection: Throughout the semester, your instructors may ask for a variety of assignments including tests and/or quizzes for student learning of institutional general education competencies or program assessment. Please save all your class materials until the end of the semester.

Classroom Admittance: OCC classes shall only be attended by the officially registered OCC students or perspective students, instructor of record, guest lecturer, or substitute. Visitors are not permitted to be in the classroom and should not be invited to attend or participate in the class. See [FERPA](#) regulations for more information. For any changes, students must talk with their instructor first and then their advisor.

Face-to-Face Classes: students must attend this class in person only. Instructors will not allow a different form of instructional delivery.

Use of AI Tools: This course permits you to use artificial intelligence (AI) tools, such as chatbots, text generators, paraphrasers, summarizers, or solvers, to get guidance on assignments, as long as you do so in an ethical and responsible manner. Essentially, you can think of these tools as ways to help you learn but not to entirely create work for assignments like discussion board posts, essays, presentation slides, and so on. AI is more like your tutor or TA, not a replacement for your independent thinking.

This means that you must:

- Not use AI tools to replace your own thinking or analysis or to avoid engaging with the course content.
- Cite or explain any AI tools you use. Provide the name of the AI tool, the date of access, the URL of the interface, and the specific prompt or query you used to generate the output.
- Be transparent and honest about how you used the AI tool and how it contributed to your assignment. Explain what you learned from the AI tool, how you verified its accuracy and reliability, how you integrated its output with your own work, and how you acknowledged its limitations and biases.

You are accountable for any mistakes or errors made by the AI tool. Always check and edit the output before submitting your work. If you discover any inaccuracies or inconsistencies in the output after submission, notify the instructor immediately and correct them as soon as possible.

Using AI tools in an unethical or irresponsible manner, such as copying or paraphrasing the output without citation or transparency, using the output as your own work without verification or integration, or using the output to misrepresent your knowledge or skills, is considered a form of academic dishonesty and will result in a zero grade for the assignment and possible disciplinary action. If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor **before** submitting your work.

NOTE: Some instructors will also list specific acceptable and unacceptable uses or include a statement like “All written assignments, projects, and exams must be completed independently.”

If you have any questions about what constitutes ethical and responsible use of AI tools, please consult with the instructor before submitting your work.

What Are Student & Instructor Responsibilities?

Instructor's Responsibilities:

Attendance/Class Time:

We will be respectful of your time and begin and end class on time. If class needs to be canceled for any reason, I will notify students as soon as possible by email announcement.

Grading Assignments:

Assignments that are submitted by the due date will be graded and returned/recorded in the Blackboard grade center within 7 days. Assignments that are submitted after the due date *may* take up to 10 days before I am able to grade it.

Answering Emails:

I will do my best to respond to your emails within 24 hours on weekdays and within 48 hours on weekends. Please use your Owens email account to contact me.

Announcements:

I will post any updates and/or reminders on the Blackboard Announcement page, as well as send it out to your Owens email account.

Student Hours:

These posted times (posted outside my office door, HT 421) are designated for me to be available to meet with and assist you, outside of normal class time, with any concerns/questions you may have regarding this course or program.

Facilitating Successful Completion of the Course:

I welcome questions, concerns, and experiences relevant to the topic, course and/or professional field. We learn from each other. If appropriate, I encourage you to share and ask during class. If not, please see me during student hours or email me. If there is a need, I will reach out to the student or class to address that need. I will make referrals to other campus resources as needed. I am aware that life is happening, and this class is not the only thing you have going on.

Student Responsibilities:

Attendance/Participation:

Class discussions, activities and participation are an integral component of learning and understanding the course material and therefore, attendance is part of your grade in this class. If you are going to be absent, please notify the appropriate instructor prior to missing the class, if possible. Please look at the assignment calendar to see what was missed (topic, assignments, etc.), review the power points and contact the instructor if you have any questions.

Class will begin on time, so please plan accordingly. We understand things happen. It will only become an issue if your lateness becomes habitual: 5 points *could* be deducted from your final grade.

Make Up Tests

A make-up test consisting of fill in the blank questions and answers may be administered if a student misses a regularly scheduled examination. To receive maximum credit, the student should notify the instructor at least 30 minutes prior to the scheduled testing time. If no notification is received, the student will receive a five (5) point reduction from the score of the make-up examination.

Inclement Weather

In the case that the campus closes due to inclement weather, online lecture may take place at the discretion of the instructor. Communication from instructor will be sent out the day of.

Assignment submission:

Students are to be familiar with the assignment calendar and how to submit assignments (on the assignment instructions on the blackboard shell). If you are unable to submit an assignment by the end of the day on the due date (on assignment calendar), you are encouraged to still submit it. Although full credit *may not* be given if the assignment is late, you will be able to earn *at least* partial credit.

Check Email/Blackboard Shell:

Any announcements and updates will be sent to your email and/or posted on the Blackboard shell. Students are encouraged to check their email *at least* once daily and to log into their Blackboard shell several times a week to remind themselves of upcoming assignments, etc.

Tests/Quizzes:

All dates for assignments and tests are listed on the assignment calendar. All tests and quizzes will be administered on Blackboard and taken during the designated class time. Please bring your laptop/tablet with you on these days with Respondus software loaded. If you do not have a device, please let us know ahead of time and we will make other arrangements for you.

Phones:

We have found phones to be a distraction in class. Please silence your phone and keep it out of sight. However, there may be circumstances you may need your phone available for personal reasons. If this is necessary, please be discreet and leave the classroom.

Contacting the Instructor:

Email is the best way to reach me, outside of student hours. Please include your course number and section in the subject line.

Asking for Help/Clarification:

I expect questions and that is ok. **Unless I am told otherwise, we will assume that every student understands everything said in class, on the Blackboard shell and through emails.** Sometimes the best thing you can say is "I am not following this

concept” or “I have no idea where to begin with this assignment.” All classes, and courses in this program, will build on and further develop the information we discuss. Please reach out as soon as you have questions or need clarification.

Instructor Discrepancies:

If at any time throughout the semester you have a problem with the course and/or instructor, contact the instructor. If the issue cannot be resolved after discussion with the instructor, see the Department Chair: Christine Smith, HEC , 567-661-7376 or christine_smith@owens.edu

Respectful Class Communication:

Our classrooms are a safe space. Faculty and students show respect for each other in class and all communication. There is also a short power point on the Blackboard info tab regarding polite, professional email communication.

Social Media Use:

The use of YouTube, Facebook, Instagram, Twitter, Discord, SMARTkapp or any other internet share site to distribute any course, campus lab, or clinical photos, audio recordings, or video recordings is prohibited unless written permission is received from all people involved. Using these sites to display comments about faculty, peers, staff, and/or patients is in conflict with our Inclusion Statement. Such comments may result in disciplinary action. Written permission involves completion of “OWENS COMMUNITY COLLEGE CONSENT FORM”.

How Will Your Grade Be Determined and What Are the Major Assignments for the Semester?

Weighted Grade Scheme:

Breakdown of Course Grades

The lecture section will be worth 50% of the course grade; divided as follows:

Lecture Test #1	12%
Lecture Test #2	12%
Comprehensive Final	13%
Notecard Quizzes	1%
Quizzes	2%
Worksheets	2%
PowerPoint & Oral Presentation	4%
<u>Patient Assessment Exercise</u>	<u>4%</u>
Total	50%

Grading Procedure:

Grading Procedure: The grading scale for the course is

93 – 100%	A
85 – 92%	B
76 – 84%	C
60 – 75%	D
59% or below	F

The course is divided into two sections:

1. Lecture 50%
2. Laboratory 50%

Students must earn a passing grade of 76% in both the lecture and laboratory components of the course. If either of the percentages earned is less than 76%, the student will earn a grade of “D or F” for the course and be removed from the program.

Lecture Class Assignments

All assignments and testing will be submitted online in the **RAD213-XXX** course shell.

Lecture Tests:

All digital testing will utilize **Respondus Lockdown Browser**. All off-campus testing will utilize **Respondus Lockdown Browser with Web Cam**. If students are not logged into Respondus during assessments, no credit will be issued for the assessment. A repeat exam consisting of fill-in-the-blank questions on campus will be administered.

Two (2) tests will be given. Each will be worth 12% of the grade.

Lecture Quizzes:

Lecture quizzes worth 2% of the total grade. **These will be given during lecture class time. The lowest (one) quiz grade will be dropped over the 8-week course.** The student is advised to attend class regularly and keep reading assignments and studies up to date to fully benefit from these quizzes. Make-up quizzes will not be administered.

Worksheets:

A series of worksheets are provided in the lecture manual and posted on Blackboard. When completed they will serve as valuable study guides. Students will need to submit answers on blackboard by the beginning of the class day and time that a worksheet is due. Students are allowed multiple attempts with the highest grade being recorded. All attempts must be completed by the day and time of the final exam. **The first attempt on a worksheet must be completed by the due date stated on the syllabus.** First attempts Worksheet numbers and due dates are listed in the syllabus along with the appropriate reading assignments. **No worksheet grade will be accepted after the lecture final exam.**

Note card Quizzes:

In order to allow students to be better prepared for lecture, note card quizzes will be given. These quizzes will need to be completed before the beginning of a lecture session on the topic for the day. For these quizzes, students may utilize notes they have prepared from the reading assignments posted in the lecture schedule to be used during the quiz. Students may not share notes and students may not provide notes for other students. **The lowest (one) note card quiz grades will be dropped over the 8-week course.** No late submissions will be accepted.

Final Exams:

A comprehensive final exam will be given. This test will be over all materials presented 8 weeks of lecture. It will also account for 13% of the course grade.

Article Critiques:

RAD-213 PowerPoint/Oral Presentation Projects:

Students will be divided into small groups of two to three to research, prepare, and present a PowerPoint to the class, explaining and/or demonstrating, to an audience of allied health professionals and students, an aspect of patient care or imaging in the field of medical imaging technology. Each group will present an oral presentation of approximately ten-fifteen minutes in class explaining the information represented on the PowerPoint. In addition, each group will produce a neatly typed abstract of the PowerPoint information and oral presentation complete with a bibliography. The group PowerPoint and oral presentation efforts will earn 4% of the RAD 213 lecture grade for each participant. The RAD 213 instructor and other faculty members will grade each poster. The grade awarded will be an average of the faculty members' poster scores and the content of the written abstract and the oral presentation. Oral presentations will be heard on **DATE during Directed Practice class**. Please email your PowerPoint at least 24 hours before presentation is made..

Patient Assessment Exercise

Students will prepare a written report describing how the five-part problem-solving plan would be applied to a given scenario. Specific guidelines will be supplied. In RAD 213, the **patient assessment exercise** is the outcomes assessment tool used to assess responsible and ethical patient care skills.

Critical thinking, patient assessment and writing skills will be challenged. To receive credit (4% of the total grade), this report must be completed by **DATE**. Ten points will be deducted for every calendar day it is late.

Last Updated DATE: This is just to give you a guide as to what we are going to cover in this course and when.

213 Lecture Schedule SEMESTER

Class days	Topic	Reading Assignment
1.	Imaging Professionals and Pharmacology	Adler; Ch 21, Ch 26 Appendix E
	Biopharmaceutics, Pharmacokinetics & Pharmacodynamics <i>Notecard Quiz #1</i> <i>Worksheet #1 due</i>	Adler, Ch 21
2.	Radiopaque Contrast Media QUIZ #1-IN CLASS <i>Worksheet #2 due</i>	Adler Ch 23; Handout
	Drug Administration Routes/ Asepsis/Isolation <i>Worksheet #3 due</i>	Adler: Ch 17, 18 & 22
3.	TEST #1	
	Patient Assessment, Part I: Definition and purpose/ Responding to medical emergencies in radiology <i>Emergency Procedures Worksheet due</i>	Adler: Ch 15; Ch 20

4.		
	Patient Assessment: Part II- Gathering a complete medical history to aid problem solving. <i>Worksheet #4 due</i> PowerPoint presentations in DP	Adler, Ch 4, 12 *All presentation materials due for all students
5.	Patient Assessment, Part III: Patient Assessment for Technical Factor Selection. <i>Worksheet #5 due</i>	Bushong, Ch 15, p 245-265 Adler, Ch 11. Lecture notes and handouts
	Importance of laboratory testing in radiologic procedures QUIZ #2- IN CLASS PowerPoint presentations in DP	Handout in Lecture Manual
6	TEST #2 <i>Patient assessment exercise due.</i>	
7	Special interventional procedures, guide wires, catheters, power injectors <i>Notecard Quiz # 2</i>	Bontrager, Ch 17
	Pathologies affecting the vascular system/diagnostic studies. Common vascular and non-vascular interventional studies *Prerecorded <i>Note card quiz # 3</i> <i>Worksheet #6 due</i> <i>Worksheet # 7 due</i> <i>Worksheet # 8 due</i> QUIZ #3-TAKE HOME-DUE BEFORE DATE AT TIME .	Bontrager Ch 17
8.	COMPREHENSIVE LAB FINAL	
	COMPREHENSIVE FINAL	

LABORATORY SECTION

<i>What is it?</i>	<i>Here is the Answer!</i>
Course Name:	Radiologic Technology VII
Course & Section Number:	RAD 213-BXX
Meeting Day(s) & Time Lab(s):	
Credits:	2
Contact Hours:	1.5 lecture, 1.5 lab
Instructor's Name, Student Hours (Formerly Office Hours) & Location, OCC Phone, OCC Email Additional Contact Information:	

**Please only use your student OCC email to contact instructors.

What Are Student & Instructor Responsibilities?

Instructor Responsibilities:

We will be respectful of your time and begin and end lab on time. If lab needs to be canceled for any reason, We will notify students as soon as possible by email announcement.

Answering Emails:

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Announcements:

We will post any updates and/or reminders on the Blackboard Announcement page, as well as send it out to your Owens email account.

Student Hours:

These posted times (posted outside instructor office doors) are designated for us to be available to meet with and assist you, outside of normal class time, with any concerns/questions you may have regarding this course or program.

Facilitating Successful Completion of the Course:

We welcome questions, concerns, and experiences relevant to the topic, course and/or professional field. We learn from each other. If appropriate, We encourage you to share and ask during lab. If not, please see us during student hours or email us. If there is a need, We will

reach out to the student or class to address that need. We will make referrals to other campus resources as needed. We are aware that life is happening, and this class is not the only thing you have going on.

Student Responsibilities:

Lab expectations

The student must assume responsibility for preparing for labs. It is expected that the student will read and study the assigned material covering the unit in the text before the instructional lab session.

Students will be engaged in the lab session, focusing on lab activities ONLY. Students are expected to participate in lab discussions and be prepared to answer questions at any time during the session.

Students working in the energized laboratory must wear their radiation badges at all times.

Attendance/Participation:

The RAD 213 labs are extremely important. Students who are tardy to a scheduled lab, not prepared for class or leave early are disruptive to the class. Please refer to the Procedure Manual for the complete laboratory attendance policy.

Participation in lab activities is vital to the learning process and successful completion of this program. If you cannot participate in an activity, please tell the instructor as soon as possible. We may be able to modify.

Students are expected to leave the laboratory in an organized fashion, putting away test tools, densitometers, etc., in the cabinets. If the lab is not straightened at the end of each session, one point will be deducted from that week's experiment for each of the persons in the lab.

Inclement weather policy

If the campus closes, laboratory will be rescheduled.

Breakdown of Course Grades

The laboratory section will be worth 50% of the course grade, divided as follows:

Lab Lecture Quizzes	10%
Experiments	5%
Book Camp Modules	5%
Lab Midterm	15%
Lab Comprehensive Final	15%
Total	50%

Class Assignments

Laboratory Experiments and Procedures

Students will perform various technical experiments putting radiological theory and its application into use. If students will be absent from the assigned lab, he/she must contact the instructor or leave a message at least 30 minutes prior to the laboratory session. Failure to comply will result in a 0 for the experiments missed.

At the discretion of the instructor, students will either make-up a missed lab or provide a 3-4 page typed paper covering the missed lab material and will be due one (1) week from the date of the missed lab. **Any lab experiment turned in 2 weeks past the due date will not be accepted.**

Students are expected to work only with their group member(s). Duplication of the laboratory data is not permitted and the instructor reserves the right at his/her discretion to penalize students (with point value deductions) who is suspected of doing so. All Lab Reports will be submitted electronically via Blackboard.

All lab reports must be turned in on the next calendar day by midnight (e.g., Tuesday lab is due Wednesday by midnight; Thursday lab is due Friday by midnight). There will be a **(5) percent point reduction** from the report score for each calendar day it is late.

Lab Exams

A midterm test will be administered electronically via BlackBoard. A make-up test consisting of fill-in-the-blank questions and answers will be administered if students miss a regularly scheduled examination. To receive maximum credit, students should notify the instructor or the secretary at least 30 minutes prior to the lecture session for that day. If no notification is received, students will receive a ten (10) point reduction from the score of the make-up exam.

Comprehensive Laboratory Exam

A comprehensive final exam will be administered electronically via Blackboard and will consist of multiple choice, true/false and matching questions. Students will sign up for time. In addition, the student should be prepared to answer questions concerning x-ray images and how they are affected by radiography quality changes as well as radiation biology.

Laboratory Quizzes

Quizzes worth 6% of the lab grade will be given at the beginning of each instructional session via Blackboard. Students must assume responsibility for preparing for labs. It is expected that students will read and study the assigned material covering the unit in the text before the instructional lab session. **Student may only utilize hand-written notes for these quizzes.** The format of RAD-213 laboratory quizzes will include multiple choice, true or false, and short answer questions. There will be no makeup quizzes, but the lowest quiz grade will be dropped. All laboratory quizzes are comprehensive

Students working in the energized laboratory must wear their radiation detection devices at all times. Students will not be permitted to enter or participate in lab instruction without the device.

Students are expected to leave the laboratory in an organized fashion, putting away test tools, densitometers, etc., in the cabinets. If the lab is not straightened at the end of each session, one point will be deducted from that week's experiment for each of the persons in the lab. Strict adherence to this policy will be made.

Make-up Test

A make-up test consisting of fill-in-the-blank questions and answers will be administered if the student misses a regularly scheduled examination. To receive maximum credit, the student should notify the instructor or the secretary 30 minutes prior to the test scheduled for that day. If no notification is received, students will receive a ten (10) point reduction from the score of the make-up exam. All laboratory tests are comprehensive!

Boot Camp Modules

Each week you will be assigned a group of questions on your RAD Tech Book camp site. These questions will need to be completed weekly. **EACH WEEK WILL OPEN ON DATE AT TIME AND ARE DUE FOR ALL STUDENTS ON DATE AT TIME.** These questions are worth 5% for a completion grade. **There will be no make up or reopening of these assigned modules.**

213 Lab Schedule SEMESTER

Class days	Topic	Reading Assignment
	Image Quality Histograms and Look up Tables: Experiments: ONE- Window Level and Window Width: Evaluating Image Contrast and Brightness in Digital Radiography TWO- Dose Area Product (DAP) and Its Impact on Image Quality and Patient Dose NOTE CARD QUIZ WEEK #1 BOOT CAMP MODULE-DUE DATE AT TIME	Carlton, Principles of Radiographic Imaging: CH20 pg 277-28
	Receptor Exposure THREE- Lab Experiment: Receptor Exposure – Milliamperage, Time, and mAs FOUR- Effect of SID on Receptor Exposure FIVE- Effects of Beam Restriction on Receptor Exposure NOTE CARD QUIZ WEEK #2 BOOT CAMP MODULE-DUE DATE AT TIME	Carlton, Principles of Radiographic Imaging, CH. 26 CH 20 pg 284
1.	Receptor Exposure/Contrast Experiments: SIX –Effects of Kilovoltage (kVp) on Receptor Exposure SEVEN – Effect of the 15% Rule on Contrast and kVp/mAs Relationship NOTE CARD QUIZ WEEK #3 BOOT CAMP MODULE-DUE DATE AT TIME	Carlton, Principles of Radiographic Imaging, Ch. 20, 26 & 27

	*ALL STUDENTS ATTEND DATE LAB Exposure Modifications/Anode Heel Effect Experiments: EIGHT – Evaluating the Anode Heel Effect in Radiographic Imaging NINE – Controlling Scatter – Improvement with Lead NOTE CARD QUIZ WEEK #4 BOOT CAMP MODULE-DUE DATE AT TIME	Carlton, Principles of Radiographic Imaging, Ch. 26 & 27
	Grids Experiments: TEN- Grids – Grid vs. Non-Grid with mAs Compensation ELEVEN- Improper Grid Utilization/Grid Errors NOTE CARD QUIZ WEEK #5 BOOT CAMP MODULE-DUE DATE AT TIME	Carlton, Principles of Radiographic Imaging, Ch. 18
	MIDTERM DATE AT TIME *ALL STUDENTS	
	AEC Radiation Protection Review TWELVE-AEC Testing – Evaluating Automatic Exposure THIRTEEN- Effect of Tube Filtration on Receptor Exposure NOTE CARD QUIZ WEEK #6 BOOT CAMP MODULE-DUE DATE AT TIME	Radiation Protection Handout
	FINAL LAB AT TIME - DURING LECTURE	

Disclaimer: “The instructor reserves the right to amend this syllabus as deemed necessary and will communicate such amendment to the students in the course.”