North Central State College

MASTER SYLLABUS
2019-2020

A. Academic Division: Health Science

B. Discipline: Radiological Sciences

C. Course Number and Title: RADS 1260 Imaging Science 2

D. Course Coordinator: Ellen Johnson, M.Ed., R.T. (R)
Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:
- Name: Click here to enter text.
- Office Location: Click here to enter text.
- Office Hours: Click here to enter text.
- Phone Number: Click here to enter text.
- E-Mail Address Click here to enter text.

E. Credit Hours: 3
Lecture: 2
Laboratory: 3

F. Prerequisites: RADS 1140
Co-Requisites: RADS 1240(m)

G. Syllabus Effective Date: Fall, 2019

H. Textbook(s) Title:

Principles of Radiographic Imaging
- Author: Carlton / Adler
- Copyright Year: 2012
- Edition: 5th
- ISBN: 978-143-905-8725

Radiologic Science for Technologist
- Author: Stewart Bushong
- Copyright Year: 2017
- Edition: 11th
- ISBN: 9780323353779

Radiographic Image Analysis **(Optional)**
- Authors: McQuillen
- Copyright Year: 2014
- Edition: 4th
- ISBN: 978-0-323-28052-5

Didgital Radiography and PACS

- Authors: Carter & Veale
- Copyright Year: 2019
- Edition: 3rd
- ISBN: 9780323547581

I. Workbook(s) and/or Lab Manual: None

J. Course Description: This course is designed to establish a foundation in the principles that govern the image production process. Content establishes a knowledge base of factors that control and influence the production and recording of radiographic images. Electronic and film imaging with associated accessories are included. Image analysis is included with the importance of optimal imaging standards. The lab setting will permit application of these skills.

K. College-Wide Learning Outcomes:

College-Wide Learning Outcome	Assessments - - How it is met & When it is met
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

Outcomes	Assessments – How it is met & When it is met
1. Compare and contrast the factors that govern the image production process with film, computed and digital modalities.	Lab experiments – Weeks 2,4,6, 8
2. Identify the components of image manifestation by the different modalities.	Test – Week 4, 7, 11
3. Differentiate the components of various image receptors.	Test – Week 4, 7, 11
4. Compare and contrast the process of image acquisition, image acquisition errors and software image processing.	Worksheet Week 12-14
5. Identify the various factors that affect image visibility in the different modalities.	Lab experiments Week 2, 3, 5, 6
6. Compare and contrast how exposure factors are manipulated to produce a diagnostically valuable image.	Lab experiments Week 2, 3, 5, 6
7. Evaluate non-diagnostic images with regard to image quality and evaluation criteria.	Classroom activity / rubric Week 4, 6, 8, 10, 12
8. Devise an action plan to correct a non-diagnostic image by manipulating factors that contribute to image quality.	Classroom activity / rubric Week 4, 6, 8, 10, 12
9. Using phantoms, make the exposure using the devised corrective strategy.	Lab experiments Week 10-14

Outcomes	Assessments – How it is met & When it is met
10. Evaluate the corrected image for image quality and evaluation criteria.	Lab experiments Week 11-15

M. Topical Timeline (Subject to Change):

Week 1	The Prime Factors
Week 2	Vision and Perception
Week 3	The Grid
Week 4	Radiographic Film and Processing
Week 5	Computed Radiography
Week 6	Computed Radiography
Week 7	Digital Radiography
Week 8	PACS
Week 9	The Imaging Process
Week 10	Density / Image Receptor Exposure
Week 11	Density / Image Receptor Exposure Contrast / Contrast Resolution
Week 12	Contrast / Contrast Resolution
Week 13	Recorded Detail / Spatial Resolution
Week14	Recorded Detail /Spatial Resolution Distortion
Week 15	Distortion
Week 16	Comprehensive Final

N. Course Assignments:

Weekly Reading
Worksheets
Chapter Review Questions
Chapter Challenge Questions
Oral Presentations
Progressive Tests
Lab experiments

O. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
93–100	A	4.00	Superior
90–92	A-	3.67	Superior
87–89	B+	3.33	Above Average
83–86	B	3.00	Above Average
80–82	B-	2.67	Above Average
77–79	C+	2.33	Average
73–76	C	2.00	Average
70-72	C-	1.67	Below Average
67–69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

P. Grading and Testing Guidelines:

Tests	360 points
Homework	35 points
Laboratory	45 points
Oral Presentations	45 points

Participation	15 points
Comprehensive Final	200 points
TOTAL	700 points

Q. Examination Policy:

Test dates are given on the course calendar which is handed out on the first class day. Every attempt will be made to follow this schedule. However, if a change is needed it will be announced in class. If a test has to be changed, I will give the class at least one week notice.
The Radiology Department believes that a grade below C- indicates a lack of mastery of essential content and skills. Any student who receives less than C- in any radiological sequence course cannot continue in the program or meet graduation requirements.

R. Class Attendance and Homework Make-Up Policy:

Generally, the student will be expected to make-up any missed test/quiz on the next day that student is on campus OR using the campus make-up test service, whichever comes first. Exceptions may be made at faculty discretion. The student **must speak to the instructor directly** or communicate through email before the next class meeting time so make-up arrangements can be made. If I haven't talked to you directly, I will email you. All emails posted prior to 10 pm are valid even if you are not aware of the email.

S. Classroom Expectations:

All students are expected to be in class and on time. If a student cannot make it to class they are to call or email the instructor before the scheduled start of class. Any student missing a quiz/test or assignment deadline may not take the quiz/test or hand in the assignment late unless calling in / emailing before class starts.

1. If you miss a class period, you are responsible for all material covered that period and are expected to be prepared for the next class. Please communicate directly with the instructor if you miss a class.

2. Students should call if unable to be in class. Students must call in on the day of a test or assignment prior to the beginning of class. ***Failure to do so will result in a 10% deduction from the student's score on that test.***

   Participation points will be subtracted for tardiness, absences, and leaving class early. Again, talk to me before the next class.

   NOTE: In all cases, the student must call prior to the beginning of class.

The first missed test/assignment	No deduction from score
The second missed test/assignment	Minus 8% from earned score
Additional missed test/assignment	Zero

   Any student who arrives late for a test may not be permitted to take the test at that time. The test will then be treated as a make-up test.

3. All students are expected to demonstrate professional behavior in the classroom and use language appropriate for the classroom learning experience.

4. Cell phone use is not permitted during class time. Any student's cell phone that rings, vibrates loudly, or is used for texting during class will result in a $1.00 fine from that student. Monies collected from cell phone fines will be donated to the Robert L. Garber Scholarship for radiology students.

T. College Procedures/Policies:

Important information regarding College Procedures and Policies can be found on the syllabus supplement **located at https://sharept.ncstatecollege.edu/committees/1/curriculum/SiteAssets/SitePages/Home/SYLLABUS%20SUPPLEMENT.pdf**

The information can also be found Choose an item.