CASPER COLLEGE COURSE SYLLABUS

RDTK 1610 01 – Radiographic Imaging I

Semester/Year: Fall 2015

Lecture Hours: 2	**Lab Hours**: 3	**Credit Hours**:3
Class Time:	**Days:**	**Room:**
9:00-11:30	Monday / Tuesday	HS 124 / 118

Instructor's Name: Laurie Weaver

Instructor's Contact Information:	**Office Phone:**	**Email:**
	307-268-2587	lweaver@caspercollege.edu

Office Hours: Monday / Tuesday: 8:00-9:00am, Thursday: 9:00am-12:00pm

Course Description:
Identifying and demonstrating essential operating principles of x-ray machines, and the factors and ancillary equipment that contributes to the production of optimum diagnostic quality radiographs.

Statement of Prerequisites:
MATH 1400

Goal:

Outcomes:
1. gain an appreciation for the principles behind creating the x-ray beam.
2. understand the basic fundamentals of electricity and electromagnetism and how they relate to creating the radiographic image.
3. be able to explain how the radiographic image is formed and describe how certain factors affect the image.
4. grasp an understanding of the x-ray tube and its circuitry.
5. understand how pathology affects radiographic technical factors and image.
6. gain an understanding for the importance of radiation protection practices and specific dose measurements.
7. understand the four quality factors and how they affect the radiographic image.
8. apply knowledge in regard to collimation and grids to improve image quality
9. discuss digital and computed imaging in regard to quality factors and patient dose

Course Objectives:
1. Solve problems using critical thinking and creativity
2. Use quantitative analytical skills to evaluate and process numerical data

Course Requirements:
1. See attendance criteria.
2. One test can be made up for this course. The test must be made up the same week it was originally given.
3. Failure to pass this course with a "C" or better will result in dismissal from the program.
4. Casper College encourages intellectual honesty. Proven dishonesty of anyone involved will result in failure of the course.

Specific Chapter objectives can be found at the beginning of Chapters 2-18.

Date	Chapter	Content Imaging I: Subject to Change	WS/Lab Subject to change
Aug. 24	Course Review	Course Review/ Review Games	
Aug. 25	Chapter 2	Radiation Concepts	Review sheet 1, WS 2-1, 2-2 (1-4)
Aug. 31	Chapter 3	Electricity	
Sept. 1	Chapter 3	Electricity Contd.	
Sept. 7	NO CLASS	LABOR DAY	
Sept. 8	**Test #1** Chapter 4	Chapters 2&3 Electromagnetism	WS 4-3 (1-13), 4-4 (1,2,4,5), 4-5
Sept. 14	Chapter 4	Continued	
Sept. 15	Field Trip	Electronics Dept.	Casper College
Sept. 21	Chapter 5	X-ray Equipment	
Sept. 22	Ch. 5 Continued		WS 5-1 (1-4)
Sept. 28	**Test #2** Start Chapter 6	**Chapters 4, 5** X-ray Tube	WS 6-1 (1,3-9), 6-2
Sept. 29	Chapter 6		WS continued
Oct.5	Ch. 7	X-ray Production	
Oct. 6	Chapter 7 Chapter 10	X-ray Production Filtration	WS 7-1
Oct. 12	Chapter 10	Continued	WS 10-1
Oct.13	**Test #3** Chapters 8-9	**Ch. 6, 7, 10** Radiation Protection Concepts, Equipment, and Procedures for Patients and Personnel	In class presentations: Students prepare presentations
Oct. 19-20	**Fall Break**	**No class**	
Oct. 26	**Midterm Exam**		
Oct. 27	Chapters 8-9 Contd.	Radiation Protection Concepts, Equipment, and Procedures for Patients and Personnel	In class presentations
Nov. 2	Chapter 11	Prime Factors	WS 11-1 / Lab 11-2
Nov. 3	Chapter 12	X-ray Interaction	WS 12-1
Nov. 9	Chapter 13	Minimizing Pt. Dose	Lab: Instructor Handout
Nov. 10	**Test #4**	**Chapters 11, 12, 13**	
Nov. 16	Chapter 15	Beam Restriction	Lab 15-1
Nov. 17	Chapter 16	Patient as Beam Emitter	
Nov. 13	**Test #5**	**Chapters 15, 16**	
Nov. 30	Chapter 17	Pathology Problem	
Dec. 1	Chapter 17	Cont'd	WS 17-1
Dec. 7	Chapter 18	Grids	Lab 18-1, 18-2, 18-3
Dec. 8	**Test #6**	**Chapters 17 and 18**	**GOALS FOR PROFESSION**
Dec. 8	**Review for Final**		
Finals Week **December 14**		**Comprehensive exam**	

se note that in most cases the instructor will allow time to complete labs and worksheets in class as chapters progress
s over chapter reading will be given throughout the semester
Final exam is comprehensive covering all material from the semester

Methodology:

Evaluation Criteria:

1. Grade percentage scale: A = 92-100
   B = 83- 91
   C = 75- 82
   F = 0- 74
2. Weighted components:
   1. Assignments — Variable
   2. Tests — 100 pts x 6
   3. Worksheets/labs — 100 points
      Students will gain 100 pts if all WS/labs are completed with an S grade. A 10% deduction will occur for each U grade or each lab not completed. Labs can be made up with an excused absence prior to the test being given over that chapter. Labs cannot be made up after the chapter test is given.
   4. Midterm Exam — 100 points
   6. Final Exam — 200 points

* Selected worksheets and labs to be turned in.

Casper College may collect samples of student work demonstrating achievement of the above outcomes. Any personally identifying information will be removed from student work.

Required Text, Readings, and Materials:
(1) Principles of Radiographic Imaging, 5th ed., Carlton and Adler, Delmar, 2013
(2) Principles of Radiographic Imaging: Workbook and Lab Manual, 5th ed., Carlton, Delmar, 2013
(3) Course handouts provided by instructor.

Class Policies: Last Date to Change to Audit Status or to Withdraw with a W Grade: Last day to withdraw from course is November 12, 2015. Please be aware that withdrawing from this course will prohibit the student from continuing with the radiography program.

Student Rights and Responsibilities: Please refer to the Casper College Student Conduct and Judicial Code for information concerning your rights and responsibilities as a Casper College Student.

Chain of Command: If you have any problems with this class, you should first contact the instructor to attempt to solve the problem. If you are not satisfied with the solution offered by the instructor, you should then take the matter through the appropriate chain of command starting with the Department Head/Program Director, the Dean, and lastly the Interim Vice President for Academic Affairs.

Academic Dishonesty: (Cheating & Plagiarism) Casper College demands intellectual honesty. Proven plagiarism or any form of dishonesty associated with the academic process can result in the

offender failing the course in which the offense was committed or expulsion from school. See the Casper College Student Code of Conduct for more information on this topic.

Official Means of Communication: Casper College faculty and staff will employ the student's assigned Casper College email account as a primary method of communication. Students are responsible to check their account regularly. This is also, where you will find course evaluation links during course evaluation periods.

ADA Accommodations Policy: If you need academic accommodations because of a disability, please inform me as soon as possible. See me privately after class, or during my office hours. To request academic accommodations, students must first consult with the college's Disability Services Counselor located in the Gateway Building, Room 344, (307) 268-2557, bheuer@caspercollege.edu . The Disability Services Counselor is responsible for reviewing documentation provided by students requesting accommodations, determining eligibility for accommodations, and helping students request and use appropriate accommodations.

Calendar or schedule indicating course content: (be as complete here as possible, at least a grid showing week by week topics to be covered, assignments, due dates, readings etc. This can always be modified with a new handout later in the semester – better to send out a revised schedule than to trust verbal announcements by themselves)