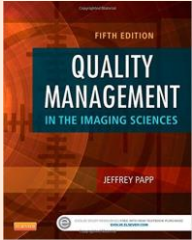


## SPRING 2019 – XRA 222 APPLIED QUALITY ASSURANCE

<b>Faculty Information:</b>	<p><b>Instructor:</b> Prof. Jarek Stelmark <b>Office:</b> 307 J <b>Office Hours:</b> Wednesday 11:00 am – 12:15 pm Tuesday 12:30 pm – 01:45 pm <b>Phone:</b> (718) 518-4123 (secretary) <b>E-mail:</b> jstelmark@hostos.cuny.edu</p>
<b>Course Description:</b>	<p>The student will identify test material/equipment , test procedures and evaluation/ interpretation and preventative and corrective maintenance relating to quality assurance and will minimize costs as well as recognize the public’s right to minimize radiation exposure.</p> <p><b>Pre-requisite:</b> XRA 112 and XRA 121</p>
<b>Course Meetings:</b>	<p><b>Section 202A and 302A:</b> Lectures and labs: Tuesday 9:30- 10:45 &amp; 11:00 -12:15</p>
<b>Required Textbooks:</b>	 <p>Papp , J ... <i>Quality Management in Imaging Sciences</i> ( latest Edition) St. Louis: Elsevier Mosby, Inc</p>

<b>Grading Criteria:</b>	Test 1	10 % Exam 1	A = 93 – 100
	Test 2	30 % Midterm Exam	A- = 90 – 92
	Test 3	10 % Exam 3	B+ = 87 – 89
	Test 4	35 % Final Exam	B = 83 – 86
	Lab Grade	15%	B- = 80 – 82
			C+ = 77 – 79
			C = 70 – 76
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			D = 60 – 69 = Fail
			F = 00 – 59 = Fail

<b>Lab Outline:</b>	<ol style="list-style-type: none"> <li>1. Lecture: Introduction to Quality Management</li> <li>2. Visual Inspection of the Radiographic Room</li> <li>3. Lead Apparel Integrity Testing</li> <li>4. mAs Reproducibility</li> <li><b>5. Test 1</b></li> <li>6. mAs Linearity and Reciprocity</li> <li>7. kVp Check</li> <li><b>8. Midterm Exam</b></li> <li>9. HVL Check</li> <li>10. Timer Accuracy Check</li> <li><b>11. Test 2</b></li> <li>12. Light-Radiation Field Congruency</li> <li>13. Automatic Exposure Control (AEC) Reproducibility</li> <li>14. Automatic Exposure Control (AEC) Consistency with Varying mA and kVp</li> </ol> <p style="text-align: center;"><b><i>FINAL EXAM Cumulative</i></b></p>
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<b>Course Objectives:</b>	<p><i>Upon completion of the course, students will be able to:</i></p> <ol style="list-style-type: none"> <li>1. Visually inspect radiographic room.</li> <li>2. Perform lead apparel integrity testing.</li> <li>3. Test mAs reproducibility, linearity and reciprocity.</li> <li>4. Conduct kVp accuracy check.</li> <li>5. Perform timer accuracy check.</li> <li>6. Determine if the light field and radiation field are congruent.</li> <li>7. Conduct various tests to determine AEC system integrity.</li> </ol>
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<b>Teaching Methods:</b>	<ol style="list-style-type: none"> <li>1. Audiovisual presentations, digital radiographic images and handouts</li> <li>2. Discussions and demonstration</li> </ol>
<b>Classroom Policies:</b>	<ol style="list-style-type: none"> <li>1. Cell phones and beepers must be turned off or placed on “vibrate” mode when in the classroom.</li> <li>2. Students who arrive after the class has begun should enter the classroom quietly without making any unnecessary noise.</li> <li>3. Unruly and/or disruptive behavior may be subject to disciplinary action.</li> <li>4. Students who create a material or substantial interruption of the educational process will be dismissed from the class and referred to the Disciplinary Committee to determine if additional sanctions - including suspension or dismissal from the program - are warranted.</li> </ol>
<b>Student Responsibilities:</b>	<p><i>Students are expected to:</i></p> <ol style="list-style-type: none"> <li>1. Come to class on time</li> <li>2. Perform all lesson objectives, activities and reading assignments.</li> <li>3. Complete assignments on or before their due date.</li> <li>4. Demonstrate proficiency on all homework and written assignments.</li> <li>5. Demonstrate knowledge and comprehension of the radiographic principles discussed in class as well as all assigned readings.</li> <li>6. Demonstrate knowledge and comprehension of the radiographic anatomy and landmarks discussed in class as well as all assigned readings and PowerPoint presentations.</li> <li>7. Complete all reading assignments and laboratory activities</li> <li>8. Complete and electronically submit all Blackboard <u>Directed Study Homework</u> assignments by the due date as specified within Blackboard. Failure to do so will result in a grade of incomplete for the course.</li> <li>9. Complete and hand in all written assignments on time.</li> <li>10. Complete all scheduled examinations.</li> <li>11. Have access to a fully updated computer with MS Office and internet access. For those students with no access to computers, use of the Hostos Community College computer lab will be required for the completion of on-line assignments.</li> </ol>
<b>Use of Electronic Devices:</b>	<p>Cell phone use is not permitted during class time. Cell phones must be placed on “vibrate” mode. Emergency calls must be taken outside the classroom. During examinations, cell phones must be placed in a central location away from the testing area. No personal headphones/iPods are permitted during class or exams. A simple, non-programmable calculator is permitted during examinations; students may not use – or have in their possession – a programmable calculator, PDA, Blackberry, or one that has advanced memory or logarithm functions.</p>
<b>Attendance Policies:</b>	<ol style="list-style-type: none"> <li>1. All classes are mandatory</li> <li>2. If a student is absent from more than 15% of the classes (2 classes) the instructor may lower the grade or fail the student for excess absences.</li> <li>3. Absences in excess of two (2) require documentation to be excused.</li> </ol>

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**Lateness:**

1. Students are required to come to class on time.
2. Three latenesses will be counted as one absence from class.
3. Students who arrive more than 10 min late ( after lab instructions have been explained) will NOT be permitted to join the lab groups in progress as they pose a significant risk to property, themselves and others

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**Academic Integrity:**

Students are responsible for upholding the academic integrity of the program by not participating either directly or indirectly in acts of cheating and by discouraging others from doing so.

Students' responsibilities include, but are not limited to, the following:

1. No student shall give or receive any assistance or communicate in any way with another student while an examination is in progress.
  2. No student shall use unauthorized notes, books or other materials during an examination.
  3. No student shall attempt to obtain or disseminate the content of any examination prior to its distribution by the proctor.
  4. No student shall procure or distribute answers to examinations in advance.
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## Written Assignment Policies:

1. Written assignments must be the product of the student's own research.
2. No student shall submit work that has been written by someone else or copied from an outside source.
3. No student shall submit work that has been previously submitted in either whole or part for academic credit. This is termed "self-plagiarism."
4. Late assignments may not be accepted; if accepted, points will be deducted.
5. Students who engage in academic dishonesty will receive a grade of zero for the assignment.
6. All violations of the academic integrity policy shall be referred to the Disciplinary Committee to determine if additional sanctions - including suspension or dismissal from the program - are warranted.

### **LABORATORY ASSIGNMENT –XRA 222**

All laboratory assignments are to be handed in one week after completion of lab. Assignments are to be handed in at the beginning of class; Late assignments will not be accepted. If you are absent, the assignment may be turned in the following week.

### **DO not turn in written lab assignment if you did not do the lab with your group**

The following format **must** be followed for all written assignments. Use only complete sentences when writing. Assignments are to be typed.

1. **Purpose:** Write a clear, well-written sentence describing the purpose of the test
2. **Equipment:** List equipment used
3. **Procedure:** Write step-by-step explanation of the procedure you used in the lab. Do not copy text book if it does not correspond to what was actually done in class
4. **Acceptable Limits:** Identify the acceptable standards for the test to pass
5. **Frequency:** When are tests performed
6. **Diagram:** If possible, diagram the test layout
7. **Evaluation of Results:** Evaluate the results of your lab exercise. The most important part of testing is your analysis of results. Ask yourself the following questions:
  - Are the results within acceptable limits?
  - If not, why not?
  - What's your recommendation, if any?
  - If there is a problem with the results, what could have caused the problem?
  - If there are follow-up procedures, what are they?

**Remember that spelling, grammar and neatness will be factored into your lab grade. If the lab is not legible or sloppy it will be returned with a zero grade.**

## Examination Policies:

1. No student may remove an exam from the classroom under any circumstances
2. Exams are timed; they must be completed within the stated time frame
3. Students who arrive late for an exam will not receive extra time to complete the exam.
4. No credit will be given for questions left unanswered regardless of the reason.
5. Students are responsible for correctly completing all test answer sheets
6. When using a scantron answer sheet, a number “2” pencil must be used to fill in the bubbles.
7. No credit will be given for incompletely erased answers or blanks on a scantron.
8. Make-up exams will only be considered for major exams or quizzes in extraordinary circumstances that justify special consideration. ***Verifiable documentation is required.*** All requests for make-up exams will be determined by the instructor, based upon the merits of the request, on a case-by-case basis. ***Submitting a request for a make-up exam does not guarantee that permission will be granted.***
9. If the instructor grants permission for a make-up exam, ***it will be scheduled during the week of final exams.***
10. No student will be granted permission for more than one make-up exam for a course; ***a grade of zero will be given for any additional missed exams.***
11. Classroom examinations will proceed as scheduled regardless of computer problems or Blackboard outages that limit a student’s access to PowerPoint presentations and or any other document posted in blackboard. It is the student’s responsibility to take notes during class and to read all pertinent chapters in the required textbook for this course.

## Students with Disabilities:

As required by section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, reasonable accommodations are provided to ensure equal opportunity for students with verified disabilities.

It is important that all prospective and current students be aware of the essential functions necessary to complete the radiologic technology program requirements. These are the same as the technical and physical job requirements for all radiologic technologists working in the field today.<sup>1</sup>

### ***Students must be able to:***

1. Assess and accurately understand requisitions, orders, charts, directions, and other job related documents and communications.
2. Independently travel through the radiology department and to other departments and floors of the hospital.
3. Assist patients to transfer from beds, wheelchairs, and stretchers to the radiographic table and back.
4. Give clear verbal commands to a patient and communicate effectively with patients and professional staff; including with individuals wearing masks.
5. Independently access, adjust, and operate radiographic equipment.
6. Independently assess the ongoing functioning of the radiographic machine and other equipment.
7. Independently assess radiographic images, controls, labels, and observe patients.
8. Work in a sterile environment, prepare sterile fields, and fill sterile syringes.

If you have a disability that requires accommodations, contact:

### **Services for Students with Disabilities (SSWD)**

Raymond Perez, Services Manager  
Savoy (D) Building  
120 Walton Ave, Room D101P  
Bronx, NY 10451  
Phone: (718) 518-4459 (Voice)  
E-mail: [rpmerez@hostos.cuny.edu](mailto:rpm Perez@hostos.cuny.edu)

If you are already registered with SSWD and have a letter from them verifying that you are a qualified student with a disability, please present the letter to the instructor as soon as possible. The instructor will work with you and SSWD to plan and implement appropriate accommodations.

### **Please Note:**

*Students who do not register with the Services for Students with Disabilities office and have their disability verified are not eligible to receive any special accommodations.*

1. This is adapted from McBride, J. A. & Reed, M. A. (2010). Program literature, accreditation standards, and ADA compliance. *AEIRS Spectrum* 21(3), 11-12.