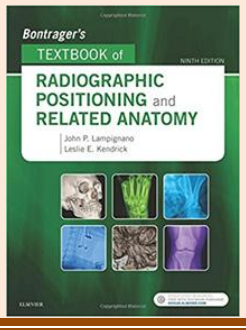
Eugenio María de Hostos Community College – Radiologic Technology Program

SPRING 2026 – XRA 221 ADVANCED PROCEDURES II

Faculty Information:	***Instructor***: Professor Jarek Stelmark ***Office***: A307- K ***Office Hours***: Monday 2 pm – 3:30 pm ***Phone***: (718) 518-4119 *(direct)* or (718) 518-4123*(secretary)* ***E-mail:*** ***jstelmark@hostos.cuny.edu***
Course Description:	The student will identify those radiographic examinations involving digital imaging modalities and the specialized equipment required for, but not limited to, CT, MRI, digital radiography and digital image processing. Topics may be revised to keep abreast with the latest advances in the radiological sciences. Pre-requisites: XRA 211
Course Meeting Time:	**Thursdays:** 11: 00 am – 12:15 pm
Recommended Textbooks:	**Textbook of Radiographic Positioning and Related Anatomy, 8e** Kenneth L. Bontrager MA RT(R) and John Lampignano MEd RT(R) (CT)- Latest Edition St. Louis: Elsevier Mosby, Inc. ISBN: 978-0-323-08388-1 

Grading Criteria:	Test 1 15% Test 2 (Mid-Term) 15% Test 3 30% Final Exam 40% * Final Exam will be Cumulative	A = 93 – 100 A- = 90 – 92 B+ = 87 – 89 B = 83 – 86 B- = 80 – 82 C+ = 77 – 79 C = 70 – 76 D = 60 – 69 = Fail F = 00 – 59 = Fail * **Passing Grade is 75**
Course Outline:	1. MRI Data Acquisition and Image Formation 2. MRI Safety 3. Image Weighting and Contrast in MRI ***Test 1*** 4. Introduction to CT 5. CT Instrumentation 6. Generating Images in CT ***Test 2 (Mid-Term)*** 7. Computed and Digital Radiography 8. Digital Image Processing ***Test 3*** 9. Image Intensified Fluoroscopy 10. Digital Fluoroscopy 11. Virtual Reality in Radiography ***Final Examination (Cumulative)***	
Course Objectives:	***Upon completion of the course, students will be able to*** 1. Understand the use of digital modalities 2. Explain basic principles of image formation and processing in computed and digital radiography 3. List the components of the PACS network 4. Discuss the history and basic principles of operations of the following modalities: CT, MRI, and Fluoroscopy.	
Teaching Methods:	1. Audiovisual (PowerPoint presentations) and handouts 2. Classroom lectures, discussions and demonstrations.	

Classroom Policies:	1. Cell phones must be turned off or placed on "vibrate" mode when in the classroom. 2. Students who arrive after the class has begun should enter the classroom quietly without making any unnecessary noise. 3. Unruly and/or disruptive behavior may be subject to disciplinary action. 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.
Student Responsibilities:	***Students are expected to:*** 1. Come to class on time 2. Perform all lesson objectives, activities and reading assignments. 3. Complete and hand in all written assignments on or before their due date. 4. Demonstrate proficiency on all homework and written assignments. 5. Demonstrate knowledge and comprehension of Topographic Anatomy discussed in class.
Use of Electronic Devices:	Electronic devices include cell phones, smart phones, smart watches, smart pens, phablets, tablets, programmable calculators, camera-ready devices, and any other electronic device which can be used to record a lecture, photograph or duplicate test materials, access the internet and/or communicate with others during lectures, labs, or exams. Electronic devices may not be used for audio or visual recording of a lecture or lab without prior expressed consent of the instructor. Basic, non-programmable calculators are not classified as electronic devices. Sending or receiving cell phone calls or text messages in classrooms and labs is inappropriate, disruptive, and may be a violation of the exam security policies listed below. During lectures and labs, electronic devices may be used for immediate course-related purposes only; otherwise, they must be set to "off" or "vibrate", removed from the desktop, and put away. If you receive an important call, quietly leave the room and answer the call in the hallway. Talking or texting on cell phones during lectures and labs is not permitted.
Attendance Policies:	1. All classes are mandatory and online participation is vital. 2. If a student is absent for more than 2 of the classes, the instructor may lower the grade or fail the student for excess absences 3. Absences in excess of two require documentation to be excused.

Lateness:	1. Students are required to come to class on time. 2. Three lateness's 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.
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.
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.

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 keys. 6. Make-up exams will only be considered for major exams in extraordinary circumstances that justify special consideration. ***Verifiable documentation is required***. 7. 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*. 8. If the instructor grants permission for a make-up exam, *it will be scheduled during the week of final exams*. 9. 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***.

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.[1]

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 radiographic machine's and other equipment's ongoing functioning.
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)

Services for Students with Disabilities (SSWD)

Savoy (D) Building
120 Walton Ave, Room D101P
Bronx, NY 10451
Phone: (718) 518-4454 (Voice/TTY)

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.*