Welcome.

On behalf of the Department of Radiology, I would like to welcome you to the M4 Diagnostic Radiology Elective. This course has been designed to provide senior medical students with an overview of the modalities available for the detection and diagnosis of a wide range of diseases. You will have the opportunity to observe and participate in daily image interpretation, which will help you develop novice interpretation skills as well as help prepare you in your future clinical practice.

Your radiology elective schedule…

For the next four weeks, you are expected to fully participate in all scheduled radiology activities from Monday through Friday starting at 9:00 a.m. On most days, you will report to the Radiology Conference room or resident library for a radiology tutorial review led by one of our radiology residents. If there is no tutorial scheduled for that morning, check in with Betty Arkwright (located main 3-417) promptly at 9:00 a.m. and start the day in your assigned reading room. Attendance is recorded.

The radiology tutorial is coordinated with afternoon lectures and assigned reading. You will gain the most benefit from these tutorials if you preview them ahead of time. They are accessible though the resident website: radres.vcu.edu. There is a “medical students” category at the top of the web page and a drop down menu linked to the tutorial website. The 9:00 a.m. tutorial schedule is on the calendar, which is attached to this packet as well as accessible on the same website. Note: NO FOOD OR DRINK is allowed in the Radiology Conference room. Lectures start promptly at 9 a.m.—please be courteous to your presenter by arriving on time.

For the rest of the morning, you will rotate through your selected subspecialty reading room. During your time in the reading room, you typically work one-on-one with the radiology resident. Many reading rooms will review cases (a.k.a. “read out”) with the resident around 10:00 a.m. and again in the afternoon, so take advantage of this educational opportunity. If you only “observe” during the time you are allotted to the reading room, it is human nature to loose interest. Try to actively participate through recording interesting cases, jotting down pearls provided during the read-out to research at a later time, and keeping a lookout for an interesting case to present, which will be discussed in the “Grading” section.

At noon, you have the OPTION of attending the radiology resident noontime lecture. If you are preparing to pursue a career in Radiology, these lectures may not only be interesting, but give you a jump-start on your future residency.

We understand that there is a lot of information to acquire in a very short amount of time; so alternatively, you can utilize this time for self-study. You will be expected to report back to your selected subspecialty reading room at 1:30 p.m., which is when the residents also return from lunch.

From 3:00-4:00 p.m., an attending will present a didactic lecture to you to reinforce key concepts. All of these attendings have not only taken time out of their day to present these lectures, but they put a lot of time in developing this lecture series specifically for YOU. Note
that most of these lectures will be given in the Radiology Conference room, unless specified on the calendar. **Attendance is recorded at the beginning of every lecture.**

At the end of the afternoon lecture, you are excused for the day. There is a lot of reading and preparation for this elective, so we want to ensure that you have ample time for independent study. However, if you want to maximize your reading room experience, you are welcome to arrive between 7:30-8:00 a.m. and/or return to your reading room following the afternoon lecture.

**Subspecialty rotations & faculty:**

Our faculty is listed online with photographs at: [http://www.radiology.vcu.edu/facstaff/](http://www.radiology.vcu.edu/facstaff/)

Subspecialties you can sign up to rotate through include: Neuroradiology, Musculoskeletal, Abdominal, GI/GU fluoroscopy, Thoracic, Interventional, Emergency, Nuclear medicine, and Pediatrics. You are able to sign up for four week-long subspecialty rotations that will be most beneficial to you in your future medical career. The schedule typically allows for 1-2 students working in any one section at a time, with the exception of Thoracic, Abdominal, and Interventional Radiology, which will allow for up to 3 students.

To complete your experience, two “night calls” in the Emergency Department (5:00 - 9:00 p.m.) will be included in this rotation. You will be joining the on-call radiology resident during this time and will likely have the opportunity to see the role diagnostic imaging plays, from triaging trauma and other life-threatening conditions to enhancing ED throughput.

For those students who elect to participate in the Vascular and Interventional Radiology subspecialty rotation, scrubs are required. You can obtain scrubs at any scrub-dispensing machine with your VCU student ID. Visiting students can contact Nancy Jackson (828-9784) to obtain scrubs.

**Required reading:**

The course textbook for this elective is “Radiology 101” by WE Erkonen, published by LWW. Students are expected to read the entire text, which is manageable given that we provide you with extra time in this rotation for self-study. If you coordinate your reading with the daily topics outlined on the calendar, you will be reading ~ 68 pages in week 1, ~62 pages in week 2, ~165 pages in week 3, and ~75 pages in week 4. Although reading 165 pages in one week seems daunting, keep in mind that there is an increased ratio of figures to text compared to the majority of medical textbooks you have read over the past three years—this is radiology after all, and our field rooted in visual interpretation. As well, the disease processes presented in this text should largely be a review, but now presented in the context of imaging.

We have weighted the lecture distribution towards cardiothoracic and abdomen/pelvis for two reasons: 1.) The majority of medical fields will expect you to have basic interpretation skills in these body systems and 2.) Prior course reviews have requested more time be dedicated to these sections. In addition to the required reading in your first two weeks of cardiothoracic and body imaging, consider also focusing on acquiring cases for your case log (see Case log section below), as week three has a heavier reading requirement and it is important to keep up with the course reading.

Copies of the textbook may be signed out from and returned back to Betty Arkwright. The texts must be returned on the final day of the exam in the same condition in which they were received. It will be the **individual student's responsibility to replace damaged, lost, or stolen textbooks** (replacement cost is $69.95 plus shipping and handling) before they receive their final course grade.
Case Log
Each student will be given a case log comprised of a variety of disease presentations, which range from common to potentially life-threatening diagnoses. These are cases you are expected to recognize at your level of training. It is best to find as many these cases while you’re reviewing cases in the reading room. Remember to record the date of the exam and the MRN of the patient. This log is for your benefit; so, if you have peers who haven’t seen a case of “X” and you saw it while on service, please show that case to those peers. Sharing cases is not only acceptable, but also encouraged. We’d prefer for you to see the diagnosis in this learning environment rather than encountering one of these diagnoses for the first time while you are on-call as a house officer. Keep in mind, the intention of this case log is not just to write down the case, but to SEE the case. If you are just recording the cases without reviewing them, you are only depriving yourself. Your rotation is short, so it is acceptable to record cases that you see in the morning tutorials or during attending lectures. Please remember to abide by HIPPA guidelines. Case logs must be retuned to Betty Arkwright. Only a completed case log submitted on or before exam day will be accepted. The case log accounts for 10% of your overall course grade.

Attendance and Expectations
As physicians-in-training, you are representatives of the medical profession and of Virginia Commonwealth University Health System. You are expected to be attentive, look professional and behave in a professional manner at all times. We expect every rotating student to be respectful of our patient’s rights and privacy and abide by University Honor Code and HIPAA guidelines.

This course has been designed for YOU, a senior medical student transitioning into the role of an intern, when you will have a greater responsibility and more autonomy. As well, the medical community will have a higher expectation of your clinical skill set, including novice radiologic interpretation and the ability to determine which diagnostic examination to appropriately order. This elective rotation is specifically designed to meet these needs. It is in your interest to attend every tutorial and lecture availed to you. However, we understand that you may have interviews and future obligations. Therefore, mandatory attendance is set at 80% for a passing grade.

You must be present for the final exam given on the final Friday of the rotation to receive a passing grade for this course.

Make-up Final Exam:
If a circumstance arises such that the student is unable to be present for the final exam, the student must obtain approval from the Course Director at least one day in advance of the final exam date. Following such approval, the student will receive an incomplete until that student can join the following elective in taking the final exam.

Grades
As you are transitioning into residency, the focus should be on what you can learn from this rotation to aid you in your future medical career. With that being said, the VCU School of Medicine requires a final grade. Grading for this elective is based on the following components:

- Final written exam 50%
- Oral exam 15%
- Rotation participation 15%
- Interesting case presentation 15%
- Case log 10%

The final written exam will be comprised of questions submitted from attending lectures (18 questions), morning tutorials (13 questions), and the remainder directly from the text (29 questions). You have access to all of
the sources from which this test will be derived. Note that there are several variations of this examination, but the proportion of questions will remain the same.

The **oral exam** will be a series of 15 cases (either plain film or cross sectional imaging.) The cases will be states or diseases that were presented to you in either the tutorial or an attending lecture. Your case log is a good study guide. You will NOT be tested on any NEW disease/pathology, but you may be presented with a variation of a case that you were shown. For example, if you are shown a case of a large tension pneumothorax in an attending lecture, an apical pneumothorax may be presented on the oral examination. If you were shown a case of subarachnoid hemorrhage located in the interpuduncular (“basal”) cistern, you may be tested on a case of subarachnoid hemorrhage located along the anterior falx.

**Rotation participation** is key to enjoying this rotation. We have great faculty and residents who welcome the opportunity to introduce you to our field. I will be in communication with the various sections, and together, we will give full credit to those students who are fully engaged. Likewise, those who are disruptive, sporadically attend, and/or are inattentive during the rotation will not receive full credit for “rotation participation.”

The **interesting case presentation** will be your opportunity to teach your peers about an interesting case you saw during your first two weeks on this rotation. You can download images off stentor, a universal program located throughout the hospital, and embed them into a power point format. It is best to start the presentation with a brief clinical history followed by the imaging findings, differential diagnosis, and then the final diagnosis. Explain the process of determining what the differential diagnosis should include, and how you reasoned (or pursued further testing) to determine the final diagnosis. End with a quick review of the pathology/disease presentation, workup, and treatment. The total presentation should be 4-5 min in length. Be prepared for questions from your peers at the end. And, when you’re in the audience, asking pertinent questions and contributing to a good discussion can augment your personal case presentation grade. *If deserved,* I am prepared to give everyone full credit—I hope this will be a good learning experience for everyone.

**Final Exam and Course Grade Breakdown as follows:**

- **Honors** ≥ 90%
- **High Pass** 85-89%
- **Pass** 70-84%
- **Low Pass** 65-69%
- **Fail** < 65%

**Grade Posting**

Individual student grades will be emailed to you within one week of the final exam. At the same time, grades will also be forwarded to Nancy Jackson at the School of Medicine.

**Extended Absences**

To be clear, you are permitted to be absent a total of 4 radiology rotation days (80% attendance) and still receive a passing grade. You do not need pre-approval for these four days. However, this rotation is for your benefit, so a higher rate of attendance will serve you well in your future endeavors. If an emergency arises (family crisis, medical illness, etc.), please contact Betty Arkwright at 804-828-0534 or Veronica Peltier at 804-828-0552 as early as possible. A combination of make-up attendance in a subsequent radiology rotation and/or additional projects may potentially be arranged.

**Course Survey**

There is an electronic survey for this elective located at [http://radres.vcu.edu](http://radres.vcu.edu) under the medical students category. You can either 1.) Print the form out and complete the hard copy as
the course evolves, submitting it electronically only once at the end of the course or 2.) Complete the entire survey electronically. Recurrent electronic submissions can be completed by: entering data into the form, submitting this form, and then copying the submission site address for future retrieval. You can return to your partially completed survey as many times as you need by pasting the address and resubmitting it. We won’t collect the surveys until the end of the final day. Note, this is a required part of your course, and **you must submit the course evaluation before you receive a passing grade.**

We are glad you are here with us. We truly hope you enjoy the course and find it to be a valuable experience.

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