

## 2-Week Virtual Radiology Curriculum for Medical Students

Adapted by: Prof. Ben Taragin, MD, FACR

**Hours of instruction:** 2 Weeks, daily instruction Monday – Friday

**Language of instruction:** English

**Course credit:** All credit for the course is the responsibility of the institution. ACR does not provide any course completion, certificates, or credit.

**Course description:**

This e-course is adapted from:

An Internet-Based Radiology Course in Medical School Andrew George Alexander, MD, Deborah Deas, MD, PhD, and Paul Eric Lyons, MD

A Vertically Integrated Online Radiology Curriculum Developed as a Cognitive Apprenticeship: Impact on Student Performance and Learning Jennifer E. Lim-Dunham, MD, David C. Ensminger, PhD, John A. McNulty, PhD, Amy E. Hoyt, MEd, Arcot J. Chandrasekhar, MD

Implementation of a new undergraduate radiology curriculum: experience at the University of British Columbia. Lee JS, Aldrich JE, Eftekhari A, Nicolaou S, Müller NL.

**Aim of the course:**

To gain an understanding of the use of imaging techniques in modern medicine.

**Objectives of the course:**

Through independent required reading assignments, online modules, and on-line scenarios, students will learn to incorporate evidence-based strategies for imaging services, while experiencing the science and diversity of modern imaging.

1. Knowledge for Practice
  - a. Know critical and high priority imaging findings and diagnoses and understand basic interpretive techniques in each subspecialty area.
  - b. Know the indications for the most important imaging examinations in each of the Radiology subspecialty areas.
  - c. Demonstrate knowledge of human anatomy by recognizing key structures on various imaging modalities in each of the Radiology subspecialty content areas.

2. Patient Care (Problem Solving and Clinical Skills)
  - a. Regard the critical importance of useful clinical history in imaging interpretation.
  - b. Recognize the consequences of radiation in humans of different genders and ages.
  - c. Understand the effects of radiographic contrast on patients with kidney disease.
3. Practice-Based Learning and Improvement
  - a. Describe the common imaging findings of at least one pathologic entity, present an imaging.
  - b. Present differential diagnosis of these findings and demonstrate understanding of the appropriate imaging evaluation and involved pathophysiology.
4. Systems-Based Practice
  - a. Understand the role of the radiologist in the care of patients undergoing imaging evaluation and/or image guided procedures for whom such evaluation or procedures are being considered.
  - b. Know the relative costs associated with radiologic testing.
  - c. Understand the role that false positive and false negative results from mammography have on recommendations for screening.
5. Interpersonal and Communication Skills
  - a. Effectively advise patients and colleagues on the risks, benefits, limitations, and indications of each of the most common imaging examinations.
  - b. Demonstrate understanding of the important role of communication in radiology with specific emphasis on the radiology report, urgent or unexpected findings, recommendations for follow-up imaging or procedures, and doctor patient communication.
6. Professionalism Demonstrate
  - a. understanding of the principles of mutual respect, honesty, and discretion in the use of patient clinical and imaging data, during lecture, as a part of the clinical radiology team, and when interacting with referring clinicians and non-radiology colleagues and support staff.
7. Interprofessional Collaboration
  - a. Demonstrate the ability to engage in an Interprofessional team in a manner that optimizes safe, effective patient and population-centered care.
  - b. Personal and Professional Development Demonstrate trustworthiness that makes colleagues feel secure when one is responsible for the care of patients.

**Teaching arrangement and method of instruction:**

Students will be involved in internet-based small group sessions with classmates and radiology specialists. Coursework is comprised of online learning resources, individual textbook reading and online interactive materials.

**Presentations:**

Each student will present an actual case history along with associated imaging studies. The student will lead the Problem-Based Learning discussion through the differential diagnosis to its conclusion, using [ACR Appropriateness Criteria](#), and actual images with interpretations.

**Assessment:**

- MRI and Radiation Safety Quiz (Passing is Mandatory)
- Each student will present an actual case history from their own current third- or fourth-year clinical experience (with HIPAA information redacted). A 5-minute student presentation on a self-selected case history presented during the second week (20%)
- Completion of online quizzes (measuring completion of required readings and modules) (20%)
- Completion of online modules (40%)
- Final examination consisting of NBME (or NMBE like) questions based on information and images covered in online material (20%)

Students are required to pass each of the separate components to pass the course.

**Module content \ schedule:**

Day 1:	Introduction to Radiology, Imaging and Radiation
Day 2:	Introduction (Continued) and Introduction to Chest Radiology
Day 3:	Deep Dive into Pulmonary Embolism
Day 4:	Ultrasound
Day 5:	Nuclear Medicine
Day 6:	Pediatrics
Day 7:	Abdominal Imaging & Deep Dive on Appendicitis
Day 8:	Neuroradiology: Recognizing Some Common Causes of Intracranial Pathology
Day 9:	MRI
Day 10:	Radiology exam, assessments