**HM 590 – Special Topics in Medicine: Diagnostic & Interventional Radiology Immersion**

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**Important Dates:**

**TUESDAY, February 10, 2026:** Class 1 - Virtual
**TUESDAY, February 17, 2026:** Class 2 - In Person
**TUESDAY, February 24, 2026:** Class 3 - In Person
**TUESDAY, March 10, 2026:** Class 4 - In Person
**TUESDAY, March 17, 2026:** Class 5 - In Person
**TUESDAY, March 24, 2026:** Class 6 - In Person

Class meetings will be held from 6:00–8:00 pm. The first session will be held virtually via Zoom. All remaining sessions will be held in person on the Grand Rapids campus and may take place either at the Secchia Center or the 275 Michigan Corewell Simulation Center.

**Scheduling Note:**
Due to simulation center scheduling and resident/faculty availability, the sequence of topics and specific session locations may be adjusted. All six weekly topics described in Section II will still be covered during the course, and any updates will be communicated to enrolled students via email.

**Required Materials:**

There are no required materials. Materials for each skills lab or class session that are required will be provided.

## Section I. Course Description

This six-week elective introduces medical students to key radiologic subspecialties through sessions led by attending physicians who share their clinical work and experiences in the field. Each week also includes a resident-led component focused on either a general approach to interpreting imaging and recognizing Step 1-style findings, or a brief hands-on skills lab to build practical imaging skills.

## Section II. Weekly Topics

### Topic 1: Introduction to Diagnostic Radiology & Musculoskeletal Radiology

**Format:** Virtual (Zoom)

**Guest Lecturer:** MSK Attending Radiologist & Diagnostic Radiology Resident

- Attending-led overview of diagnostic radiology and musculoskeletal radiology, including training path and day-to-day practice.
- STEP 1-focused review of common musculoskeletal pathology on imaging (e.g., fractures, degenerative changes, soft tissue injuries).
- Introduction to a systematic approach for reading musculoskeletal X-rays and other basic MSK imaging.

**Optional Readings**

- Langlotz, Curtis P. "The Future of AI and Informatics in Radiology: 10 Predictions." Radiology, vol. 309, no. 1, Oct. 2023, article e231114. Radiological Society of North America, doi:10.1148/radiol.231114.
- Langlotz, Curtis P. "Will Artificial Intelligence Replace Radiologists?" Radiology: Artificial Intelligence, vol. 1, no. 3, 15 May 2019, article e190058. Radiological Society of North America, doi:10.1148/ryai.2019190058.

### Topic 2: Cardiothoracic Radiology

**Format:** In-Person (Secchia Center)

**Guest Lecturer:** Cardiothoracic Attending Radiologist & Diagnostic Radiology Resident

- Attending-led overview of cardiothoracic radiology as a subspecialty and its role in clinical care.
- STEP 1–focused review of key chest imaging pathology (e.g., pneumothorax, pneumonia, heart failure).
- Introduction to a structured approach for reading chest X-rays and other basic thoracic imaging.

**Topic 3: Abdominal Radiology (GI/GU)**

Format: In-Person (275 Michigan Corewell Simulation Center)

**Guest Lecturer:** Abdominal Radiology Attending Radiologist & Diagnostic Radiology Resident

- Recognize basic abdominal anatomy on imaging modalities like ultrasound, CT, and MRI.
- STEP 1 review of common abdominal imaging findings (e.g., appendicitis, renal calculi).
- Skills Lab (tentative): Introduction to abdominal ultrasound techniques.

**Topic 4: Neuroradiology**

**Format:** In-Person (Secchia Center)

**Guest Lecturer:** Neuroradiology Attending Radiologist & Diagnostic Radiology Resident

- Attending-led overview of neuroradiology as a subspecialty and common clinical applications.
- STEP 1–focused review of core neuroimaging pathology (e.g., intracranial hemorrhage, stroke, mass lesions).
- Introduction to a systematic approach for reading brain CT and MRI.

**Topic 5: Breast Imaging**

**Format:** In-Person (275 Michigan Corewell Simulation Center)

**Guest Lecturer:** Breast Imaging Attending Radiologist & Diagnostic Radiology Resident

- Review basic mammography and breast ultrasound interpretation.
- Skills Lab: Practice ultrasound-guided biopsy techniques.

**Topic 6: Introduction to Interventional Radiology**

**Format:** In-Person (275 Michigan Corewell Simulation Center)

**Guest Lecturer:** Interventional Radiologist

- Introduction to Interventional Radiology and overview of common image-guided procedures (e.g., vascular access, embolization, biopsies).
- Skills Lab (tentative): Simulation-based introduction to IR tools and basic image guidance.

## Section III. Student Project: Case Analysis

To earn credit for the elective, each student will complete a short written analysis of a radiology case. This assignment emphasizes foundational imaging skills appropriate for preclinical medical students, including anatomy, basic interpretation, and understanding of underlying pathophysiology.

**Approved Case Sources:**

- Radiopaedia — https://radiopaedia.org
- LearningRadiology — https://www.learningradiology.com
- RSNA Case Collection — https://cases.rsna.org
- Eurorad — https://www.eurorad.org

**Assignment Requirements:**
Submit a 1–2 page written report (PDF or Word) that includes the following sections:

**Required Sections & Instructions:**

**1. Case Information**

- Case title
- Source website & URL
- Imaging modality (e.g., CT head, CXR, MRI spine, ultrasound abdomen)
- Related subspecialty (e.g., MSK, neuro, chest, abdominal)

**2. Clinical Summary (2–3 sentences)**

Briefly state:

- Patient age/sex
- Main symptom(s) or presentation
- Why imaging was performed

**3. Key Images (2–4 total)**

- Insert unlabeled images from the case.
- Then include the same images with labels or annotations after your description to highlight key findings.

**4. Image Description (Short, Structured)**

In 1–2 concise paragraphs, describe:

- Pertinent anatomy visible in the images
- Abnormal findings in simple radiologic terms (e.g., “hyperdense area,” “fluid collection,” “loss of cortical continuity”)
- Overall pattern or key abnormality

**5. Basic Pathophysiology & Anatomy Explanation**

In 4–6 sentences, explain:

- The underlying pathophysiology of the condition
- How this pathology produces the imaging findings
- Relevant anatomy involved and why it matters clinically

This should demonstrate understanding, not just labeling.

**6. Final Diagnosis:** Provide the diagnosis as listed in the case source.

**7. One High-Yield Takeaway:** Summarize the most important thing you learned from this case.

**Submission & Deadline:** Upload your completed 1–2 page report by the final day of the elective.

## Section IV. Enrollment

This course is offered to M1 and MCE students at MSU CHM and the majority of the sessions will be held in-person on the Grand Rapids campus; however, CHM students from both campuses (Grand Rapids & East Lansing) are eligible to enroll. Students should consider in-person requirements when making the decision to enroll in the elective. Capacity will be limited to 20 students to ensure adequate space for in-person activities. Enrollment will be determined on a first-come, first-served basis via Qualtrics sign-up.

## Section V. Evaluation Criteria

To successfully complete the elective, students are expected to meet the following criteria, with exceptions made on a case-by-case basis:

**Attendance:**
Participation in the full 12 hours of scheduled programming.

- Students may miss a maximum of one session with an approved excuse.
- If a session is missed with an approved excuse, a make-up assignment will be required.

**Final Assignment:**
Participation in and timely submission of the final case analysis assignment, which will be graded on a Pass/Fail basis.

Students who meet these expectations will receive a grade of Pass (P) in accordance with CHM policy.

## Section VI. Credit

Grades for this elective are issued as P (Pass) or N (No Pass) in accordance with CHM policy. A Pass (P) is awarded to students who meet all evaluation criteria. A grade of N (No Pass) is assigned if the evaluation criteria are not met.