COURSE INFORMATION

Course Title: Image Interpretation 2

Course Numbers(s): XR0620

Term: 6

Time Requirement: (hours/week)
Lecture Hours: 4  Laboratory Hours: 2  Total Units: 5

Additional Course Activities:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hrs/wk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading assignments</td>
<td>5hrs</td>
</tr>
<tr>
<td>Image review</td>
<td>4hrs</td>
</tr>
<tr>
<td>Total</td>
<td>9hrs</td>
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</tbody>
</table>

Prerequisites: XR0506 Image Interpretation 1 (or equivalent*)
*as determined by instructor, department chair, and/or dean.

Co-requisites: None

Faculty:
Lead Faculty: Matthew Eurich  Contact Information: email: mattheweurich@scuhs.edu  phone: Ext 435
Office Hours: TBD  Office Location: Howe building (H-building)
Faculty Assisting in the Course: Diagnostic Imaging Residents and Faculty as assigned

COURSE PURPOSE

Course Description:
This is an advanced level course that is focused on developing search pattern and radiographic identification/interpretive skills. The course will cover the common radiographic appearances of pathologies affecting the pelvis, lower extremity, upper extremity and spine. Basic concepts of plain film interpretation for the abdomen will be addressed. Practical application of advanced imaging modalities in the assessment of pathology will be presented when appropriate. Teaching methods include lectures, skills laboratory, radiology report writing exercises and problem based group discussions that focus on clinical reasoning.

Program Learning Outcomes:
1. Assessment & Diagnosis (Objectives 1, 3, 4, 5, 6)
2. Communication and Record Keeping (Objective 2)

Objectives:
1. Utilize the ABCS search pattern to locate and describe disease processes.
2. Utilize verbal and written communication skills to communicate radiological findings to healthcare professionals.
3. Integrate clinical and diagnostic imaging information to provide an appropriate diagnosis or differential diagnosis for pathologies of the spine.
4. Integrate clinical and diagnostic imaging information to provide an appropriate diagnosis or differential diagnosis for pathologies of the lower extremity.
5. Integrate clinical and diagnostic imaging information to provide an appropriate diagnosis or differential diagnosis for pathologies of the upper extremity.
6. Integrate clinical and diagnostic imaging information to provide an appropriate diagnosis or differential diagnosis for pathologies of the abdomen.

**COURSE SCHEDULE**

<table>
<thead>
<tr>
<th>Week</th>
<th>Monday Lecture (8-10am)</th>
<th>Tuesday Lecture (3-5pm)</th>
<th>Thursday Lab (1-3pm, 3-5pm)</th>
<th>Reading assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5/9/16 introduction/report writing</td>
<td>5/10/16 cervical spine</td>
<td>5/12/16 Spinal NRA lab exercise</td>
<td>• Review Spinal NRA material&lt;br&gt;• See cervical spine disorder guide&lt;br&gt;• Marchiori- Chapter 5 Film interpretation and report writing&lt;br&gt;• Marchiori- Chapter 17 spine patterns</td>
</tr>
<tr>
<td>2</td>
<td>5/16/16 cervical spine</td>
<td>5/17/16 cervical spine</td>
<td>5/19/16 cervical spine</td>
<td>• See cervical spine disorder guide&lt;br&gt;• Marchiori- Chapter 17 spine patterns</td>
</tr>
<tr>
<td>3</td>
<td>5/23/16 thoracic spine/ribs/sternum and sternoclavicular joints</td>
<td>5/24/16 thoracic spine/ribs/sternum and sternoclavicular joints</td>
<td>5/26/16 Scoliosis lab exercise&lt;br&gt;Thoracic spine/ribs/sternum and sternoclavicular joints</td>
<td>• See thoracic spine ribs sternum sternoclavicular joints disorder guide&lt;br&gt;• Marchiori- Chapter 17 spine patterns&lt;br&gt;• Yochum-Chapter 4 Scoliosis</td>
</tr>
<tr>
<td>4</td>
<td>5/30/16 <strong>Memorial Day No Class Meeting</strong></td>
<td>5/31/16 lumbar spine/sacroccygeal spine/sacroiliac joints</td>
<td>6/2/16 Disc Nomenclature lab exercise&lt;br&gt;lumbar spine/sacroccygeal spine/sacroiliac joints</td>
<td>• See lumbar spine sacroccygeal spine sacroiliac joints disorder guide&lt;br&gt;• Marchiori- Chapter 17 spine patterns&lt;br&gt;• Nomenclature and Classification of Lumbar Disc Pathology (see required materials)&lt;br&gt;• Yochum-Chapter 5 Natural History of spondylosis and spondylolisthesis</td>
</tr>
<tr>
<td>5</td>
<td>6/6/16 lumbar spine/sacroccygeal spine/sacroiliac joints</td>
<td>6/7/16 lumbar spine/sacroccygeal spine/sacroiliac joints</td>
<td>6/9/16 lumbar spine/sacroccygeal spine/sacroiliac joints</td>
<td>• See lumbar spine sacroccygeal spine sacroiliac joints disorder guide&lt;br&gt;• Marchiori- Chapter 17 spine patterns&lt;br&gt;• Yochum-Chapter 5 Natural History of spondylosis and spondylolisthesis</td>
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<tr>
<td>6</td>
<td>6/13/16 Pelvis/Hip/femur</td>
<td>6/14/16 Pelvis/Hip/femur</td>
<td>6/16/16 <strong>Spine practical exam Spine report writing exam Spine written exam</strong></td>
<td>• Review all spinal information covered to date for exam&lt;br&gt;• See pelvis hip and femur disorder guide&lt;br&gt;• Marchiori- Chapter 18 extremity patterns&lt;br&gt;• Marchiori- Chapter 19 general skeletal patterns</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Subject</td>
<td>Date</td>
<td>Subject</td>
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</tbody>
</table>
| 7    | 6/20/16    | Pelvis/Hip/femur              | 6/21/16    | Knee/tibia/fibula              | 6/23/16    | Pelvis/Hip/femur              | • See pelvis hip and femur disorder guide  
  • See knee tibia and fibula disorder guide  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                             |
| 8    | 6/27/16    | Knee/tibia/fibula             | 6/28/16    | Ankle/foot                     | 6/30/16    | Knee/tibia/fibula             | • See knee tibia and fibula disorder guide  
  • See ankle and foot disorder guide  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                            |
| 9    | 7/4/16     | 4th or July No Class Meeting  | 7/5/16     | Ankle/foot                     | 7/7/16     | Ankle/foot                     | • See ankle and foot disorder guide  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                            |
| 10   | 7/11/16    | Wrist/Hand                    | 7/12/16    | Wrist/Hand                     | 7/14/16    | LEX practical exam  
  LEX report writing exam  
  LEX written exam | • Review lower extremity information covered to date  
  • See wrist and hand disorder guide  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                           |
| 11   | 7/18/16    | Elbow/Radius/Ulna             | 7/19/16    | Elbow/Radius/Ulna              | 7/21/16    | Wrist/Hand  
  Elbow/Radius/Ulna | • See elbow radius and ulna disorder guide  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                           |
| 12   | 7/25/16    | Shoulder/Humerus              | 7/26/16    | Shoulder/Humerus               | 7/28/16    | Shoulder/Humerus              | • Provided Shoulder Trauma, Arthritis and Congenital variant tutorials  
  • See Shoulder and humerus disorder guide for everything not trauma, arthritis or congenital variant  
  • Marchiori - Chapter 18 extremity patterns  
  • Marchiori - Chapter 19 general skeletal patterns                                                                                                                                                            |
| 13   | 8/1/16     | Abdomen                       | 8/2/16     | ICE No Class Meeting           | 8/4/16     | Abdomen                       | • Marchiori chapters 28, 29, 30, 31 and 32                                                                                                                                                              |
| 14   | 8/8/16     | Abdomen                       | 8/9/16     | Review                         | 8/11/16    | Final practical exam  
  Final report writing exam | • Marchiori chapters 28, 29, 30, 31 and 32  
  • Comprehensive for term (including abdomen on the practical, but not on report writing)                                                                                                                                                                    |
| 15   | 8/15/16    | Final written exam            | 8/16/16    | Final written exam             | 8/18/18    | No Class                      | • Comprehensive for term (including abdomen)                                                                                                                                                              |
INSTRUCTIONAL MATERIALS

Required Text(s):
1. Marchiori D; Clinical Imaging with Skeletal, Chest and Abdomen Pattern Differentials; 2nd Ed, Mosby: St Louis, MO 2005

Recommended Text(s):
1. Manaster B.J.; Diagnostic Imaging: Musculoskeletal Non-Traumatic Disease; Lippincott Williams & Wilkins, 2012 (available in the library)
2. Sonin A, Manaster B.J.; Diagnostic Imaging: Musculoskeletal Trauma; Lippincott Williams & Wilkins, 2010

Required Materials:

Provided Materials:
1. Disorder outline guide—These are based on the tables in the Taylor textbook. They tell you exactly what you need to know and what you don’t for this course and for boards. Many conditions/diseases you will be held accountable for on tests are not covered in class due to time constraints, this is your guide.
3. Presentations-A PDF student version of my presentations will be made available. The full version of the lecture powerpoints will be placed on the RLL computers for students to view at their convenience.
4. Film library in RLL-Both hard copy and digital films will be available in the RLL only.
5. Other articles or links to articles.
6. Access to Yochum and Rowes textbook Essentials of Skeletal Radiology, through the libraries online ebrary account at the following link: http://site.ebrary.com/lib/scuhs/detail.action?docID=10825305

Required Attire:
1. see university dress code

TEACHING METHODS AND ACTIVITIES

Lecture will be augmented with reading assignments. You will be required to do the assigned reading in this class, and your exams will include information from the reading that was not discussed in lecture. The final written exam is based heavily on the reading assignments.
I will not be able to cover all required content in lecture. I will do my best to highlight important content and concepts in lecture and labs. Students are again expected to do the reading assignments because they will be held responsible for the material in class tests, ICE, NBCE and real world practice.

Radiological Learning Laboratory (RLL): Open radiological laboratory hours are made available to all students on campus. A plethora of radiographs are available for viewing. A valid student ID card is required for checking out hard copy films or any textbooks. Radiology residents or student tutors/mentors are on duty in the RLL during most open lab hours. The RLL is located at the west end of the "H" building.

Weekly lecture and lab exercises: will take place to facilitate active learning and attendance.

Mandatory RLL attendance: If the student is below a 70% in the course after the spinal section exams then they will be required to put in 2 hours a week in the RLL outside normal lab time. The student will be required to sign in and out on the RLL computers (instructions posted in RLL). The student shall spend the 2 hours studying materials for the image interpretation 2 course. Working with a tutor would be acceptable during this time and is encouraged. The 2 hours must be completed each week from week 7 through week 13. If a week is missed then an excused absence is required before the missed hours are made up in a subsequent week. Failure to comply with this will result in 5 points deducted (for each week missed without an excused absence) from the students Final Practical Exam score.

EVALUATION OF STUDENT LEARNING

Grading procedures:
Evaluation of students will be primarily accomplished through multiple choice/short answer written exams, report writing exams and practical exams. All x-ray exams are cumulative – from now until you are in practice. An opportunity to review these exams will not be offered. Feedback on your test when possible will be provided in the form of sub-testing.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Spine practical exam</td>
<td>30</td>
</tr>
<tr>
<td>Spine report writing exam</td>
<td>20</td>
</tr>
<tr>
<td>Spine written exam</td>
<td>30</td>
</tr>
<tr>
<td>LEX practical exam</td>
<td>30</td>
</tr>
<tr>
<td>LEX report writing exam</td>
<td>20</td>
</tr>
<tr>
<td>LEX written exam</td>
<td>30</td>
</tr>
<tr>
<td>Final written exam</td>
<td>75</td>
</tr>
<tr>
<td>Final practical exam</td>
<td>60</td>
</tr>
<tr>
<td>Final report writing exam</td>
<td>40</td>
</tr>
<tr>
<td>Lab exercises (10x2)</td>
<td>20</td>
</tr>
<tr>
<td>Lecture exercises (20x2)</td>
<td>40</td>
</tr>
<tr>
<td><strong>TOTAL COURSE POINTS</strong></td>
<td><strong>405</strong></td>
</tr>
</tbody>
</table>

* ASSESSMENT POINT VALUES AND # OF ASSESSMENTS CAN AND LIKELY WILL BE CHANGED DURING THE COURSE OF THE SEMESTER AT DR. EURICH DISCRETION. WHAT YOU SEE LISTED ABOVE IS A GENERAL GUIDE.
* Extra credit may be given for lab/lecture exercises as well as other situations. This is all at Dr. Eurich discretion. Please do not depend on extra credit to obtain your desired grade.

Grading scale:
Letter grades will be assigned only at the end of the trimester.
A = 90% to 100%
B = 80% - less than 90%
C = 70% - less than 80%
F = less than 70%
I = Incomplete
W = Withdrawal

Note: The score you receive is the score you earn. No additional points will be given for special circumstances. Points will not be rounded up. Please do not expect exceptions. For test security purposes, the general policy of this course is that you will not be given an opportunity to review quizzes or examinations. Make-up exams will be given only with a valid excuse and must be completed within two weeks of a return from absences. No make-ups will be given for absences without a valid excuse. Seminars do not constitute a valid excuse, so don’t plan to attend one that conflicts with any quizzes or tests.

University Policies
Students are expected to spend at least two hours for each lecture or practicum hour and one hour for every two laboratory hours of course time per week in activities and assessments outside the classroom. Examples of activities include, but are not limited to: writing papers; reading articles or text; small group work; presentations; completing assignments; preparation for assessments; online activities and other activities that do not include direct instructor interaction and involvement.

All university policies apply to this course and all others. For full policy information please consult the university SCU Policy Manual. For a quick reference guide to the following policies: make-up examination, F-challenge examination, grade posting, results of failing grades, student support information, syllabus amendments, special needs, student conduct, and attendance, please consult the academic policies document housed on the Online Student Services site [the preceding is a hyperlink].

Syllabus prepared by: Matthew Eurich DC DACBR
Revised: April 2016