Fall 2020

**Diagnostic Radiological Physics I**
ENU 6657; Section 1C98; 3 Credits

**CLASS MEETING INFO**
9:30-10:25 am; Tuesday, Wednesday and Thursday
Join Zoom Meeting
https://ufl.zoom.us/j/95485558381?pwd=QXhKd0MxczFYTEvKRGUSem8rQWNnZz09

**CANVAS**
elearning.ufl.edu and LOG IN TO E-LEARNING
Lecture slides, homework assignments and quizzes will be accessed through CANVAS

**INSTRUCTORS**
Lynn Rill; rillln@radiology.ufl.edu
*Office Hours by arrangement, G-089*
Stephanie Leon; leons@radiology.ufl.edu
*Office Hours by arrangement, G-087*
Manuel Arreola; arreom@radiology.ufl.edu
*Office Hours by arrangement, G-097*

**RESIDENT ASSISTANTS**
Alok Shankar; salo0001@radiology.ufl.edu,
Justin Brown, jbro0020@radiology.ufl.edu
EXT.44307, *Office Hours by arrangement, G-520*

**TEACHING ASSISTANT**
Colin Schaeffer; csch0005@radiology.ufl.edu
EXT.44307, *Office Hours by arrangement, G-117*

**DESCRIPTION**

**PRE-REQUISITES/CO-REQUISITES**
None

**REQUIRED TEXTBOOK**

**COURSE SCHEDULE**
9/1/20 Lecture 1: X-Ray Production / LR / Chapters 2,6
9/2/20 Lecture 2: X-Ray Systems I: X-Ray Tubes / LR / Chapter 6
9/8/20 Lecture 4: X-Ray Systems III: X-Ray Spectra and Beam Filtration / LR / Chapter 6

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9/10/20 Lecture 6: X-Ray Projection Imaging II: Photon Interactions and Subject Contrast / LR / Chapter 3
9/15/20 Demo Lab 1: mA, time, blur Demo
9/16/20 Lecture 7: X-Ray Projection Imaging III: Scattered and Primary Photons, Grids, AEC / LR / Chapter 7
9/17/20 Lecture 8: X-Ray Detectors: Scintillators and Photoluminescent Phosphors / LR / Chapter 7
9/22/20 Demo Lab 2: AEC, noise Demo
9/23/20 Quiz 1: X-ray Systems and Projection Imaging Quiz, Lectures 1-8
9/24/20 Lecture 9: General Radiology Clinical Lecture: Eric Thoburn, MD / ET
9/23/20 Lecture 10: X-Ray Image Quality I: Image Quality and Dose Tradeoffs (Diagnostic Reference Levels) / LR / Chapter 4
9/29/20 Lecture 11: X-Ray Image Quality II: Image Quality Indicators: Noise, Contrast and Spatial Resolution / MA / Chapter 4
9/30/20 Lecture 12: X-Ray Image Quality III: Fourier Transforms and Convolutions / MA / Chapter 4
10/1/20 Lecture 13: X-Ray Image Quality IV: MTF, NPS / MA / Chapter 4
10/6/20 Lecture 14: X-Ray Image Quality V: DQE / MA / Chapter 4
10/7/20 Quiz 2: Image Quality Quiz, Lectures 9-14
10/8/20 Lecture 15: Digital Imaging I: Basic Concepts / LR / Chapter 5
10/13/20 Demo Lab 3: Radiographic Physics Testing Demo
10/14/20 Lecture 16: Digital Imaging II: Image Processing Algorithms / LR / Chapter 5
10/15/20 Lecture 17: Radiography Clinical Exam Performance: Jen Sirera, RT(R),CIIP, BHS / JS / Chapter 7
10/20/20 Lecture 18: Digital Radiography I: Computed Radiography / LR / Chapter 7
10/21/20 Lecture 19: Digital Radiography II: Digital Radiography / LR / Chapter 7
10/22/20 Lecture 20: Quality Control and Artifacts in Digital Radiography / LR
10/27/20 Lecture 21: Pediatric Radiology Clinical Lecture: Bob Dubuisson, MD / RD
10/28/20 Quiz 3: Digital Imaging Quiz, Lectures 15-21
10/29/20 Lecture 22: Fluoroscopy I: Image Intensifiers, Cameras / LR / Chapter 9
11/3/20 Lecture 23: Fluoroscopy II: ABC Systems and Fluoroscopic Doses / LR / Chapter 9
11/4/20 Demo Lab 4: Fluoroscopy ABC Demo
11/5/20 Lecture 24: Fluoroscopy III: Digital Fluoroscopy and DSA / LR / Chapter 9
11/10/20 Lecture 25: Radiation Protection I: Review / LR / Chapter 21
11/11/20 Lecture 26: Radiation Protection II: Radiation Safety / LR / Chapter 21
11/12/20 Lecture 27: Radiation Sentinel Event and IR Dose Tracking / AS
11/17/20 Demo Lab 5: Radiation Safety Demo
11/18/20 Lecture 28: Interventional Clinical Lecture: Sean Wiley, RPA
11/19/20 Quiz 4: Fluoroscopy Quiz, Lectures 22-28
11/24/20 Lecture 29: Mammography I / SL / Chapter 8
11/25/20 Lecture 30: Mammography II / SL / Chapter 8
11/26/20 Thanksgiving
12/1/20 Lecture 31: Mammography III / SL / Chapter 8
12/2/20 Lecture 32: Mammography IV / SL / Chapter 8
12/3/20 Lecture 33: Tomosynthesis / SL / Chapter 8
12/8/20 Lecture 34: Special Procedures in Mammography / SL / Chapter 8
12/9/20 Lecture 35: Clinical Mammography Lecture: Julia Marshall, MD
12/14/20 Quiz 5: Mammography Quiz, Lectures 29-35

ATTENDANCE POLICY; CLASS EXPECTATIONS; MAKE-UP POLICY
Attendance is required. Cell phones should not be used during class. Tardiness and lack of participation in lab sessions will be taken into account in the Participation Grade. Make-up exams may be scheduled in advance by arrangement.

Excused absences must be consistent with university policies in the Graduate Catalog and require appropriate documentation: http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance

EVALUATION OF GRADES

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<th>Assignment</th>
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<td>5 quizzes</td>
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<td>Homework assignments</td>
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ENU 6657, Diagnostic Radiological Physics
Fall 2020
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<th>Attendance and Class/ Demo Lab Participation</th>
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GRADING POLICY

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reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

Counseling and Wellness Center
352-392-1575; http://www.counseling.ufl.edu/cwc

Sexual Assault Recovery Services (SARS)
352-392-1161; Student Health Care Center

University Police Department
352-392-1111 (or 911 for emergencies); http://www.police.ufl.edu/

Academic Resources

E-learning Technical Support
352-392-4357 (select option 2); learning-support@ufl.edu; https://lss.at.ufl.edu/help.shtml

Career Resource Center
Career assistance and counseling.
352-392-1601; Reitz Union; https://www.crc.ufl.edu/

Library Support
Various ways to receive assistance with respect to using the libraries or finding resources.
http://cms.uflib.ufl.edu/ask

Teaching Center
General study skills and tutoring.
352-392-2010 or 352-392-6420; Broward Hall; https://teachingcenter.ufl.edu/

Writing Studio
Help brainstorming, formatting, and writing papers.
352-846-1138; 302 Tigert Hall; https://writing.ufl.edu/writing-studio/

Student Complaints Campus

On-Line Students Complaints
http://www.distance.ufl.edu/student-complaint-process