2023 Imaging Physics Course Syllabus

| Week | Date | Торіс | RSNA/AAPM Module | Faculty | | | |
|------|-----------|---|---|---------|--|--|--|
| | | FUNDAMENTALS | | | | | |
| 1 | 5-Jan-23 | Intro to Radiography (Interactions/X-ray tubes) | Atoms, Radiation and Radioactivity X-Ray Tubes and Spectra | MA | | | |
| 2 | 12-Jan-23 | Intro to Radiography (Interactions/Terminology) | Interactions of Radiation with Tissue Radiation Measurements and Units | MA | | | |
| 3 | 19-Jan-23 | Intro to Radiography (Geometry/Contrast/Technique) | Interactions of Radiation with Tissue Radiation Measurements and Units | MA | | | |
| 4 | 26-Jan-23 | Digital X-Ray Imaging | Radiograhic Systems, Digital X-Ray Imaging, Radiographic Image Receptors | MA | | | |
| | | | N TO MODALITIES | | | | |
| 5 | 2-Feb-23 | Intro to CT | CT Systems, Rad Dose in CT | DZ | | | |
| 6 | 9-Feb-23 | NO CLASS | Ski Day! | | | | |
| 7 | 16-Feb-23 | Intro to Mammography | Mammographic Systems | КК | | | |
| 8 | 23-Feb-23 | Intro to Fluoroscopy | Fluoroscopy Systems | JM | | | |
| | | | ISPLAY AND PROCESSING | | | | |
| 9 | 2-Mar-23 | Image Perception & Display | Image Perception and Display | JM | | | |
| 10 | 9-Mar-23 | PACS Image Processing and Reconstruction | Image Processing, Reconstruction & PACS | DZ | | | |
| 11 | 16-Mar-23 | Review Session - Q&A (| Assign Take Home Quiz 1) | JM | | | |
| | | RADIATION BIOLOG | Y AND RADIATION RISK | | | | |
| 12 | 23-Mar-23 | Basic Radiation Biology I | Basic Radiation Biology | КК | | | |
| 13 | 30-Mar-23 | Basic Radiation Biology II & Rad Protection | Basic Rad Bio & Fundamentals of Radiation Protection | КК | | | |
| 14 | 6-Apr-23 | NO CLASS | Research Day! | | | | |
| 15 | 13-Apr-23 | Radiation Effects | Radiation Effects | КК | | | |
| 16 | 20-Apr-23 | Radiation Risks and Estimating Cancer Risk | Radiation Dose and Risk, Estimating Cancer Risk from Imaging Procedures | кк | | | |
| | | IMAGING MODALITIES | | | | | |
| 17 | 27-Apr-23 | CT Systems | CT Systems | DZ | | | |
| 18 | 4-May-23 | CT Image Quality, Dose and Protocols | CT Image Quality and Protocols Radiation Dose in CT | DZ | | | |
| 19 | 11-May-23 | NO CLASS | Beach Day! | | | | |
| 20 | 18-May-23 | CT Imaging and Rad Prot of Ped Patient | Image Gently: CT Imaging and Radiation Protection of Pediatric Patient | DZ | | | |
| 21 | 25-May-23 | Basic Ultrasound Imaging and Display | Basic Ultrasound Imaging and Display | Mſ | | | |
| 22 | 1-Jun-23 | Interaction of US Tissue and Doppler | Interaction of US Tissue and Doppler | JM | | | |
| 23 | 8-Jun-23 | Image Quality & Dose in Rad and Mammo | Image Quality and Dose in Radiography Mammography Image Quality and Dose | DZ | | | |
| 24 | 15-Jun-23 | Fluoroscopy Lab | Radiation Dose and Safety in Interventional Radiology | JM+AW | | | |
| 25 | 22-Jun-23 | Mammo Clinical Lecture | | Chen | | | |
| 26 | 29-Jun-23 | Basic Nuclear Physics: Decay and Interactions with Matter | Atoms, Radiation, and Radioactivity Interactions of Radiation and Tissue | JM | | | |
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| | | Review Self-Study: Take-Home Quiz 2 | |
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Diagnostic Physics Section

diagphys@uw.edu



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|------|-----------|---|--|---------|--|
| | | | | | |
| 27 | 6-Jul-23 | US Artifacts | | Dighe | |
| 28 | 13-Jul-23 | Radiation Detection Instrumentation and Radiation Safety in NM Practice | Radiation Detection Instrumentation in NM Practice | RM | |
| 29 | 20-Jul-23 | SPECT and SPECT/CT | SPECT / SPECT-CT / Image Quality | DV | |
| 30 | 27-Jul-23 | Radioisotopes, Radiopharmaceutical, and Dosimetry | Radioisotopes and Radiopharmaceuticals Radionuclide Dosimetry and Nuclear Regulations | ΜΑ | |
| 31 | 3-Aug-23 | PET and PET/CT | PET/PET-CT/Image Quality | DV | |
| 32 | 10-Aug-23 | Nuclear Regulations | Radionuclide Dosimetry and Nuclear Regulations | 11 | |
| 33 | 17-Aug-23 | Radioisotope Safety (RISE Concepts) | Radioisotopes and Radiopharmaceuticals | 11 | |
| 34 | 24-Aug-23 | Clinical NM Artifacts | | SB | |
| 35 | 31-Aug-23 | Review Session - Q&A (Assign Take Home quiz 3) | | MA | |
| | | MAGNETIC RESONANCE IMAGING | | | |
| 36 | 7-Sep-23 | MRI: Basic Physics I | Basic Principles of Nuclear Magnetic Resonance | JO | |
| 37 | 14-Sep-23 | MRI: Basic Physics 2 and Hardware | Instrumentation | JO | |
| 38 | 21-Sep-23 | MRI: Image Formation | Image Formation | JO | |
| 39 | 28-Sep-23 | MRI: Basic Imaging Sequences | Pulse Sequences | SL | |
| 40 | 5-Oct-23 | MRI: Advanced Sequences | Special Acquisition Methods/Gadolinium-based Contrast Agents | SL | |
| 41 | 12-Oct-23 | MRI: Imaging Features and Characteristics | Image Characteristics | JO | |
| 42 | 19-Oct-23 | MRI: Artifacts | Artifacts | JO | |
| 43 | 26-Oct-23 | MRI: Quality/Bioeffects/Safety MRI: Siting and Environmental Protection (self-study) | Quality/Bioeffects/Safety Siting and Environmental Protection | Oſ | |
| 44 | 2-Nov-23 | Review Session - Q&A | Assign Take Home quiz 4) | JO | |

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