

| Week   | Date      | Topic   | RSNA/AAPM Module  | Faculty |
|--|-----------|---|---|---------|
| <b>FUNDAMENTALS</b>  |           |   |   |         |
| 1  | 5-Jan-23  | Intro to Radiography (Interactions/X-ray tubes)           | Atoms, Radiation and Radioactivity<br>X-Ray Tubes and Spectra               | MA      |
| 2  | 12-Jan-23 | Intro to Radiography (Interactions/Terminology)           | Interactions of Radiation with Tissue<br>Radiation Measurements and Units   | MA      |
| 3  | 19-Jan-23 | Intro to Radiography (Geometry/Contrast/Technique)        | Interactions of Radiation with Tissue<br>Radiation Measurements and Units   | MA      |
| 4  | 26-Jan-23 | Digital X-Ray Imaging                                     | Radiographic Systems, Digital X-Ray Imaging, Radiographic Image Receptors   | MA      |
| <b>INTRODUCTION TO MODALITIES</b>                            |           |   |   |         |
| 5  | 2-Feb-23  | Intro to CT   | CT Systems, Rad Dose in CT  | DZ      |
| 6  | 9-Feb-23  | <b>NO CLASS</b>   | <b>Ski Day!</b>   |         |
| 7  | 16-Feb-23 | Intro to Mammography                                      | Mammographic Systems  | KK      |
| 8  | 23-Feb-23 | Intro to Fluoroscopy                                      | Fluoroscopy Systems   | JM      |
| <b>IMAGE PERCEPTION, DISPLAY AND PROCESSING</b>              |           |   |   |         |
| 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 | <b>Review Session - Q&amp;A (Assign Take Home Quiz 1)</b> |   | JM      |
| <b>RADIATION BIOLOGY AND RADIATION RISK</b>                  |           |   |   |         |
| 12   | 23-Mar-23 | Basic Radiation Biology I                                 | Basic Radiation Biology   | KK      |
| 13   | 30-Mar-23 | Basic Radiation Biology II & Rad Protection               | Basic Rad Bio & Fundamentals of Radiation Protection                        | KK      |
| 14   | 6-Apr-23  | <b>NO CLASS</b>   | <b>Research Day!</b>  |         |
| 15   | 13-Apr-23 | Radiation Effects   | Radiation Effects   | KK      |
| 16   | 20-Apr-23 | Radiation Risks and Estimating Cancer Risk                | Radiation Dose and Risk, Estimating Cancer Risk from Imaging Procedures     | KK      |
| <b>IMAGING MODALITIES</b>                                    |           |   |   |         |
| 17   | 27-Apr-23 | CT Systems  | CT Systems  | DZ      |
| 18   | 4-May-23  | CT Image Quality, Dose and Protocols                      | CT Image Quality and Protocols<br>Radiation Dose in CT                      | DZ      |
| 19   | 11-May-23 | <b>NO CLASS</b>   | <b>Beach Day!</b>   |         |
| 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  | JM      |
| 22   | 1-Jun-23  | US Artifacts  |   | Dighe   |
| 23   | 8-Jun-23  | Interaction of US Tissue and Doppler                      | Interaction of US Tissue and Doppler  | JM      |
| 24   | 15-Jun-23 | Mammo Clinical Lecture                                    |   | Chen    |
| 25   | 22-Jun-23 | Image Quality & Dose in Rad and Mammo                     | Image Quality and Dose in Radiography<br>Mammography Image Quality and Dose | KK      |
| 26   | 29-Jun-23 | Fluoroscopy Lab   | Radiation Dose and Safety in Interventional Radiology                       | JM+AW   |
| <b>Assign Take Home Quiz 2 - Review Session (Self Study)</b> |           |   |   |         |

| Week                              | Date      | Topic  | RSNA/AAPM Module  | Faculty |    |
|-----------------------------------|-----------|--|---|---------|----|
| <b>NUCLEAR MEDICINE PHYSICS</b>   |           |  |   |         |    |
| 27                                | 6-Jul-23  | Basic Nuclear Physics: Decay and Interactions with Matter                            | Atoms, Radiation, and Radioactivity Interactions of Radiation and                     | JM      |    |
| 28                                | 13-Jul-23 | Radiation Detection Instrumentation and Radiation Safety in NM Practice              | Radiation Detection Instrumentation in NM Practice                                    | RM      |    |
| 29                                | 20-Jul-23 | Radioisotopes, Radiopharmaceutical, and Dosimetry                                    | Radioisotopes and Radiopharmaceuticals Radionuclide Dosimetry and Nuclear Regulations | MA      |    |
| 30                                | 27-Jul-23 | SPECT and SPECT/CT   | SPECT / SPECT-CT / Image Quality  | DV      |    |
| 31                                | 3-Aug-23  | PET and PET/CT   | PET/PET-CT/Image Quality  | DV      |    |
| 32                                | 10-Aug-23 | Clinical NM Artifacts  |   | LT      |    |
| 33                                | 17-Aug-23 | Nuclear Regulations  | Radionuclide Dosimetry and Nuclear Regulations  | JJ      |    |
| 34                                | 24-Aug-23 | Radioisotope Safety (RISE Concepts)  | Radioisotopes and Radiopharmaceuticals  | JJ      |    |
| 35                                | 31-Aug-23 | <b>Review Session - Q&amp;A (Assign Take Home quiz 3)</b>                            |   |         | MA |
| <b>MAGNETIC RESONANCE IMAGING</b> |           |  |   |         |    |
| 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   | JO      |    |
| 40                                | 5-Oct-23  | MRI: Advanced Sequences  | Special Acquisition Methods/Gadolinium-based Contrast Agents                          | JO      |    |
| 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 (self-study)            | JO      |    |
| 44                                | 2-Nov-23  | <b>Review Session - Q&amp;A (Assign Take Home quiz 4)</b>                            |   |         | JO |