ME.420 (RADIOLOGY)

ME.420.300. Research in Radiology (Undergraduate). 1 Credit.
N/A

ME.420.600. Research in the Department of Interventional Radiology. 0 Credits.

ME.420.601. Remote Diagnostic Radiology Tutorial. 0 Credits.
Remote Diagnostic Radiology Tutorial

ME.420.602. Radiological Physics and Dosimetry. 3 Credits.
This course will cover the fundamental physics behind radiation production and interaction, including a review of pertinent mathematics, classical mechanics, and nuclear physics. Topics covered: radioactive decay, radiation producing devices, characteristics of different types of radiation, mechanisms of radiation interaction, and essentials of the determination of absorbed doses.

ME.420.603. Radiation Therapy Physics. 3 Credits.
This course will provide a comprehensive survey of basic radiotherapy physics, fundamental radiation therapy, and contemporary radiation therapy.

ME.420.699. Radiology Elective. 0 Credits.
For Medical Students only. Specialized Topics in Radiology. Refer to Medical Student Electives Book located at https://www.hopkinsmedicine.org/som/students/academics/electives.html.

ME.420.702. Radiological Physics and Dosimetry. 3 Credits.
This course will cover the fundamental physics behind radiation production and interaction, including a review of pertinent mathematics, classical mechanics, and nuclear physics. Topics covered: radioactive decay, radiation producing devices, characteristics of different types of radiation, mechanisms of radiation interaction, and essentials of the determination of absorbed doses.

ME.420.703. Radiation Therapy Physics. 3 Credits.
This course will provide a comprehensive survey of basic radiotherapy physics, fundamental radiation therapy, and contemporary radiation therapy. Topics to be covered include: external beam radiation therapy, brachytherapy, and special procedures. Image guidance methods will be discussed as well as patient and machine quality assurance.

ME.420.704. Radiation Protection and Safety. 2 Credits.
The course will cover the fundamental principles of radiation protection and safety. Topics covered include: principles of radiation protection, radiation units, radiation measurements, practical aspects of the use of radionuclides, ionizing radiation and public health, regulations regarding radiation protection, and radiation shielding of x-ray facilities.

ME.420.705. Medical Physics Seminar. 0.5 Credits.
This seminar will focus on current topics in imaging, radioomics/AI, therapy, and radiopharm therapy.

ME.420.706. Radiation Biology. 3 Credits.
This course will cover the current state-of-the-art knowledge of the biological consequences of ionizing radiation at multiple length and time scales, including molecular, cellular, whole-body, and population effects, as well as how this knowledge relates to and is continually informed by applications in radiation therapy and radiation safety.

ME.420.707. Nuclear Medicine Imaging. 3 Credits.
This course covers the physics and methodology aspects of Nuclear Medicine Imaging and Positron Emission Tomography.