MEDICAL PHYSICS, MS

The program is designed for full-time students who wish to pursue a career as a medical physicist either as a researcher, as a certified clinical profession or in industry. The program will require successful completion of a minimum of 38 credits for Master’s degree and completion of a research thesis (in conjunction with one or more of the faculty). Full-time master’s students will complete the program in two years.

Admission Requirements

- B.S. degree or B.A. degree in physics, applied physics, or one of the physical sciences, including physics training at least equivalent to a minor
- Official transcript of school record, personal statement, three letters of recommendation, and curriculum vitae
- Demonstrated proficiency in written and spoken English (TOEFL/IELTS required for non-native English speakers)
- General GRE exam scores are required (physics GRE is recommended)

Tuition and Fees for the 24 Month Program

A non-refundable application fee of $115 is payable by credit card at time of application. 2021-2022 tuition at the Johns Hopkins School of Medicine for full-time graduate students is $58,000. There is also a one-time matriculation fee of $740.

Resources

For more information on graduate education at the Johns Hopkins University School of Medicine, see: Johns Hopkins University School of Medicine Graduate Programs (https://www.hopkinsmedicine.org/som/education-programs/graduate-programs/)

Program Requirements

This program consists of 38 credits (cr). There is also an ethics and responsible conduct of research requirement.

Courses

Core Medical Physics Courses (20 Cr)

All Medical Physics students are required to take the following courses:

- Radiological Physics and Dosimetry (3 cr)
- Radiobiology (3 cr)
- Radiation Therapy Physics (3 cr)
- Radiation Protection and Safety (3 cr)
- Fundamentals of Human Physiology (4 cr)
- Medical Imaging Systems (3 cr) ECE
- Academic & Research Ethics at JHSPH (0 cr)*
- Responsible Conduct of Research (0 cr)*
- Medical Physics Seminar (1 cr) must be taken each semester, but only 1 credit can be counted toward degree requirement

*University requirement for graduation; no credit

Elective Courses (12 Cr)

Student shall take 12 or more additional credit hours from the following list of courses.

- Radiopharmaceutical Imaging and Therapy (3 cr)
- Modern Biomedical Imaging Instrumentation and Techniques (3 cr)
- Magnetic Resonance in Medicine (3 cr)
- Nuclear Medicine Imaging (3 cr)
- Advanced Image Reconstruction (3 cr)
- Quantitative Imaging Analysis (3 cr)
- Organ Physiology (6 cr)
- Image Processing & Analysis (3 cr)
- Image Processing & Analysis II (3 cr)
- Medical Image Analysis (3 cr)
- Ultrasound and Photoacoustic Beamforming (3 cr)
- X-ray Imaging and Computed Tomography (3 cr)
- Imaging Instrumentation (4 cr)
- Statistics for Laboratory Scientists I (4 cr)
- Methods in Biostatistics I (4 cr)
- Molecular Imaging (3 cr)

Research Project (6 Cr)

Students are required to take at least 6 cr of independent research project or Master’s thesis research.