Medical Physics Graduate Program
MS (Coursework) Degree in Therapeutic Radiology Physics
including Physics Minor

Plan of Study

Upon entry into the program, students are expected to have completed the equivalent of two semesters of anatomy and physiology. Students that have not completed prior course work in anatomy and physiology are required to complete one of the following options: BIOL 301 and 302 or BIOL 203 and 204 or BMS 510 (Gross Anatomy) or equivalent.

Some students entering the Medical Physics program have a biology background (BIOL 203 and BIOL 204) but lack a physics minor. The following plan of study is for incoming students who do not have minor in Physics. For those students who already have a physics minor, the normal plan of study (Medical Physics Graduate Program MS (thesis) Degree in Diagnostic (Therapeutic) Radiological Physics) should be followed.

Students entering the Medical Physics program without the equivalent of a B.S. or minor in physics may opt to replace electives with upper-level physics courses or to extend the plan of study for 1 or 2 additional semesters. A sample plan of study for such students includes 3 upper level physics courses, which is equivalent to a Physics Minor. (Students entering the program without the equivalent of 2 years of undergraduate physics may also elect to take some or all of the following undergraduate physics courses: PHYS 172, PHYS 241, PHYS 252, PHYS 261 and PHYS 252. However, 100- and 200-level physics courses cannot be counted towards the credit hours required for the completion of a graduate degree.)

FIRST YEAR
Fall Semester

_____ (4)  PHYS 344 – Modern Physics (can also take PHYS 340 and PHYs 342)
_____ (3)  HSCI 312 - Radiation Science Fundamentals
_____ (2)  HSCI 313 - Principles of Radiation Detection and Measurement
_____ (3)  HSCI 526 - Principles of Health Physics and Dosimetry
_____ (1)  HSCI 696 - Seminar in Health Sciences (initial student seminar)

Spring Semester

_____ (3)  PHYS 360 - Quantum Mechanics
_____ (2)  HSCI 514 - Radiation Instrumentation Laboratory
_____ (3)  HSCI 540 - Radiation Biology
_____ (3)  HSCI 572 - Radiation Oncology Physics
_____ (1)  HSCI 696 - Seminar in Health Sciences (attending)

Summer Semester

_____ (3)  HSCI 690 - Radiation Therapeutic Physics Clinical Competencies I
_____ (3)  Medical Physics Electives (emphasis on Independent Project Development Course)

SECOND YEAR
Fall Semester

_____ (3)  PHYS 330 - Intermediate Electricity and Magnetism
_____ (2)  HSCI 574 - Medical Health Physics
_____ (3)  HSCI 690 - Radiation Therapeutic Physics Clinical Competencies II
_____ (1)  HSCI 696 - Seminar in Health Sciences (attending)
_____ (1-6)  Medical Physics Electives (emphasis on Independent Project Development Course)
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Spring Semester

______ (3)  HSCI 570 - Introduction to Medical Diagnostic Imaging
______ (3)  STAT 511 or 512 - Statistical Methods
______ (1-6)  Medical Physics Electives (emphasis on Independent Project Development Course)

*MS coursework students are encouraged to take 2-3 credit hours of HSCI 590Q (Molecular Imaging) and/or 3-6 credit hours of HSCI 590 (Mentored Research Project) in their second year.

Notes:
- Students are required to enroll in HSCI 696 Seminar in Health Sciences spring and fall semesters while in the graduate program. However, only 1 credit hour applies towards the completion of the required coursework.