



## Medical Physics Graduate Program Core Courses

### **Core Medical Physics Courses (23 Credit Hours)**

All MP students are required to take the following courses. 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 equivalent.

- HSCI 312\* – Radiation Science Fundamentals (3 CR)
- HSCI 313\* – Principles of Radiation Detection and Measurement (2CR)
- HSCI 514 – Radiation Instrumentation Laboratory (2 CR)
- HSCI 526 – Principles of Health Physics and Dosimetry (3 CR)
- HSCI 540 – Radiation Biology (3 CR)
- HSCI 570 – Introduction to Medical Diagnostic Imaging (3 CR)
- HSCI 572 – Radiation Oncology Physics (3CR)
- HSCI 574 – Medical Health Physics (2 CR)
- HSCI 696† – Seminar in Health Sciences (1 CR)
- GRAD612 – Responsible Conduct in Research (1 CR)
- AAPM/RSNA – Professional conductivity (online)

† - 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.

### **Research Project (6 Credit Hours)**

Students on the MS track are required to take at least 6 CR of independent research project or thesis research.

- MS Degree  
HSCI 590 – Independent Research Project (6 CR)
- MS Thesis Degree  
HSCI 698 – MS Thesis Research (6 CR)
- PhD Degree  
HSCI 699 – PhD Thesis Research ‡

‡ The total amount of credit hours will depend on the student’s graduate committee

### **Selective Courses (9 Credit Hours)**

Student shall take 9 or more additional credit hours from the following list of courses.

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|-------|-----|---|
| _____ | (3) | HSCI 305 – Basics of Oncology                               |
| _____ | (2) | HSCI 516 – Molecular Imaging in Nuclear Medicine            |
| _____ | (3) | HSCI 534 – Applied Health Physics                           |
| _____ | (3) | BME 595 – Theory of MRI                                     |
| _____ | (3) | HSCI 590 – Data Acquisition and Image Reconstruction in MRI |
| _____ | (3) | HSCI 590 – Magnetic Resonance Spectroscopy                  |
| _____ | (3) | STAT 511 – Statistical Methods                              |
| _____ | (3) | STAT 512– Applied Regression Analysis                       |



## Medical Physics Graduate Program Core Courses

Internships:

- \_\_\_\_\_ (3) HSCI 672 – MRI QA Intern
- \_\_\_\_\_ (3) HSCI 674 – Diagnostic Imaging Physics Intern
- \_\_\_\_\_ (3) HSCI 690 - Radiation Therapy (RT) Clinical Competencies I
- \_\_\_\_\_ (3) HSCI 690 - Radiation Therapy (RT) Clinical Competencies II

Research:

- \_\_\_\_\_ HSCI 590 – Independent Research Project
- \_\_\_\_\_ HSCI 698 – MS Thesis Research
- \_\_\_\_\_ HSCI 699 – PhD Thesis Research

Note: Students are encouraged to take 6 CR of Clinical Internships, either in Radiation Therapy or Diagnostic Imaging Courses, or a combination of both.