

MASTER OF SCIENCE IN MEDICAL HEALTH PHYSICS

The Master of Science in Medical Health Physics degree program trains students to: (1) perform radiation safety surveys; (2) monitor radiation exposure of workers, patients, and visitors to the facility; (3) establish radiation safety procedures; and (4) assure a medical facility is in compliance with state and federal radiation safety regulations. Students also are trained to evaluate and make recommendations regarding the potential hazards of non-ionizing radiation such as microwaves and laser beams. In addition, students are prepared to teach courses in radiation physics and biology and to review research projects involving radiation work of various scientific disciplines.

The curriculum provides an opportunity for students to acquire a core of fundamental knowledge through a synergistic program of formal courses, seminars, teaching opportunities, and hands-on research experience. Each student is encouraged to design, with the assistance of a research advisor, an individual course of study consistent with his/her career goals.

Admissions Requirements

Graduate Record Exam (GRE) general test and a minimum GPA of 3.0/4.0 are required. Three letters of recommendation are required. During the application process, essays stating (1) the reasons for your interest in Medical Health Physics, (2) description of professional goals and (3) an outline of your undergraduate, industrial or summer research, as well as teaching experience and clinical experience are required.

Students accepted into the CAMPEP-accredited (www.campep.org (<http://www.campep.org>)), M.S. in Medical Health Physics degree program shall have acquired a strong foundation in basic Physics. This should be documented by either an undergraduate degree in physics or a degree in a related engineering or physical science with coursework that is equivalent to a minor in Physics (includes at least three upper level undergraduate physics courses). Applicants also must have undergraduate credit for the following courses: 1) Biology: Two semesters of general biology; 2) Chemistry: Two semesters of general chemistry; 3) Mathematics: Through calculus and ordinary differential equations; 4) Computer Science: Introduction to Computer Science (one semester). The admission process includes review of academic history as well as experience and goals of applicant. Telephone and on-campus interviews are conducted for qualified applicants selected by the Admissions Committee.

Degree Requirements

A minimum of 30 credit hours and a minimum overall GPA of 3.0 is required for the M.S. degree. In addition, all master's candidates must register for Thesis for at least one semester in order to graduate. The student must successfully defend a thesis and be recommended by their program COGS for approval of their degree to the Dean of the Graduate School of Biomedical Sciences.

Plan of Study

First Year		Credit Hours
Fall		
RADI 5001	Basic Radiation Safety	1
RADI 5005	Fundamentals Of Radiation Dosimetry	3
RADI 5015	Physics Of Diagnostic Imaging 1	3
RADI 6030	Physics Of Radiotherapy	3
RADI 6049	Intro To Magnetic Resonance	2
Total Credit Hours:		12.0

First Year		Credit Hours
Spring		
RADI 5007	Statistics in the Radiological Sciences	2
RADI 5020	Principles of Health Physics 1	3
RADI 5090	Sem Radiological Science	1
RADI 6012	Phys Nuclear Medi Imaging	3
RADI 6024	Radiological Anatomy & Physiology	3
Total Credit Hours:		12.0

Second Year		Credit Hours
Fall		
RADI 5025	Molecular Oncology & Radiobiology	3
RADI 6021	Prin/Health Physics 2	3
RADI 6097	Research	3
TSCI 5070	Responsible Conduct of Research	2
RADI 5090	Sem Radiological Science	1
Total Credit Hours:		12.0

Second Year		Credit Hours
Spring		
RADI 5018	Physics Measurements In Imaging Lab	2
RADI 6098	Thesis	7
RADI 6016	Physics of Diagnostic Imaging 2	3
Total Credit Hours:		12.0

Objectives/Program Outcomes

1. Proficiency in Core Biomedical and Medical Health Physics Principles
2. Capacity to Conduct Biomedical Research
3. Critically Review and Interpret Research Literature
4. Demonstrate Competence in Written Communication
5. Demonstrate Competence in Verbal Communication
6. Conduct Research in an Ethical Manner