Medical Physics
M.S. in Medical Physics Non-Thesis
College of Health and Human Sciences

MP-MS
Fall 2024
40 Credits

To fulfill CAMPEP requirements, each student must take 25 CR of didactic coursework and 6 CR of independent research. The Purdue MP program requires a minimum an additional 9 CR of additional coursework defined as selectives. The list of selectives can be found on the next page of this document and on our website, and includes advanced courses, clinical internships, and independent research credit.

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 20300 and 20400 or equivalent.

The following plan of study is for incoming students with either a major or minor in Physics. For those students who do not have a physics minor, an alternative plan of study that includes the necessary physics courses should be drafted.

The suggested plan of study includes 25 CR didactic coursework (CAMPEP required), 6 CR of research project coursework (emphasized by CAMPEP) and 6 CR of clinical internship coursework and advanced coursework related to their research.

Requirements (31 credits)

____	(3)	F	HSCI 31200 Radiation Science Fundamentals
____	(2)	F	HSCI 31300 Principles of Radiation Detection and Measurement
____	(2)	Sp	HSCI 51400 Radiation Instrumentation Laboratory
____	(3)	F	HSCI 52600 Principles of Health Physics & Dosimetry
____	(3)	Sp	HSCI 54000 Radiation Biology
____	(2)	F	HSCI 54100 Human Sectional Anatomy
____	(3)	Sp	HSCI 57000 Introduction to Medical Diagnostic Imaging
____	(3)	Sp	HSCI 57200 Radiation Oncology Physics
____	(2)	Sp	HSCI 57400 Medical Health Physics
____	(1)	Sp	HSCI 61300 Professionalism and Professional Development in Health Sciences
			OR GRAD 61200 Responsible Conduct Of Research (F, Sp)
			AND AAPM/RSNA Professional Conductivity (online) – required for both
____	(6)	F,SpSu	HSCI 59000 Independent Topics (Research)
____	(1)	F,Sp	HSCI 69600 Graduate Seminar*

Medical Physics Selective Courses (9 Credits)

____ ( )_____ ____ ( ) _____ ____ ( ) _____

Electives (0 Credits)

____ ( )_____ ____ ( ) _____ ____ ( ) _____

F=Fall, Sp=Spring, Su=Summer
*All students are required to take HSCI 69600 for credit once and for 0 credit all remaining fall and spring semesters.

A minimum of 24 coursework credit hours with no more than 6 credit hours at the 300 or 400 level is required for the M.S. degree. The student's advisory committee may approve alternative coursework in a plan of study that will assist the student in their research, including independent study projects under the guidance of a faculty member.

Note: Graduate courses taken while registered as a graduate student at Purdue University may be considered for fulfilling the plan of study requirements only if the student has received grades of C or better. For courses at the 300 or 400 level taken as a graduate student or courses that represent either undergraduate or graduate excess credit or transfer credit, grades of B or better are required for fulfilling plan of study requirements.

Medical Physics Selective Courses:

Supplemental Coursework:

Anatomy and Physiology

____	(4)	FSu	BIOL 20300 Human Anatomy & Physiology I
____	(4)	SSu	BIOL 20400 Human Anatomy & Physiology II

Physics Minor – if previous coursework does not include a physics minor

____	(4)	F	PHYS 31000 Intermediate Mechanics
____	(3)	F	PHYS 32200 Optics
____	(3)	F	PHYS 33000 Intermediate Electricity and Magnetism (recommended)
____	(1)	FSp	PHYS 34000 Modern Physics Lab (required)
____	(3)	FSp	PHYS 34200 Modern Physics (required)
____	(3)	Sp	PHYS 36000 Quantum Mechanics
____	Varies	Varies	PHYS 40000- or 50000-level courses

A grade of B or better in all 10000, 20000, 30000 or 40000 level classes.

Clinical Internship Selective Courses*

____	(3)	F	HSCI 67200 MRI QA Internship
____	(3)	Sp	HSCI 67400 Diagnostic Imaging Physics Internship
____	(3)	F	HSCI 67600 RT Clinical Competencies I
____	(3)	Sp	HSCI 67700 RT Clinical Competencies II

*Timing of the clinical internships are subject to change. Please keep in touch with the program director to learn about the latest schedule. It is highly recommended that students take 6 CR of clinical selective courses.

Advanced Coursework

____	(3)	Sp	HSCI 52500 Statistics for Health Sciences
____	(3)	F,Sp,Su	STAT 51100 Statistical Methods
____	(3)	F,Sp,Su	STAT 51200 Applied Regression Analysis
____	(3)	FSp	HSCI 30500 Basics of Oncology
____	(3)	Sp	HSCI 53400 Applied Health Physics
____	(2)	F	HSCI 51600 Molecular Imaging in Nuclear Medicine
____	(3)	Sp	BME 51500 Practical MRI and Applications
____	(3)	Varies	HSCI 59000 Data Acquisition and Image Reconstruction in MRI
____	(3)	Sp	HSCI 59000 Magnetic Resonance Spectroscopy

Research

____	(0-8)	FSpSu	HSCI 59000 Independent Research Project
____	(0-8)	FSpSu	HSCI 69800 MS Research Thesis
____	(0-8)	FSpSu	HSCI 69900 PhD Research Thesis

* Students performing an MS Thesis, 6-CR of HSCI 590 is replaced by HSCI 698.

PURDUE UNIVERSITY

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Suggested Arrangement of Courses:

Fall 1st year:

Credits	Course Name
4	BIOL 20300
3	HSCI 31200
2	HSCI 31300
3	HSCI 52600
1	HSCI 69600
13	

Spring 1st year:

Credits	Course Name
4	BIOL 20400
2	HSCI 51400
3	HSCI 54000
3	HSCI 57000 OR HSCI 57200
1	HSCI 61300 & AAPM/RSNA Professional Conductivity
0	HSCI 69600
13	

Summer 1st year:

Credits	Course Name
3	HSCI 67600 OR HSCI 67400
3	HSCI 59000 Independent Research Project
6	

Fall 2nd year:

Credits	Course Name
2	HSCI 57400
2	HSCI 54100
3	HSCI 59000 Independent Research Project
0	HSCI 69600
3	Elective or Medical Physics Selective
10	

Spring 2nd year:

Credits	Course Name
3	HSCI 57000 OR HSCI 57200
3	HSCI 67700 OR HSCI 67200
0	HSCI 69600
3	Elective or Medical Physics Selective
9	