

Example Course Sequence for MS Degree in Medical Physics

Students should always consult with their advisor before enrolling each term.

Therapy	Imaging
1st Semester (Fall)	1st Semester (Fall)
501 Radiological Physics and Dosimetry (3 cr.)	501 Radiological Physics and Dosimetry (3 cr.)
573 Medical Image Science: Math. and Conceptual Basis (3 cr.)	573 Medical Image Science: Math. and Conceptual Basis (3 cr.)
510 Fund. of Cellular, Molecular, and Radiation Biology (3 cr.)	510 Fund. of Cellular, Molecular, and Radiation Biology (3 cr.)
701 Ethics, Responsible Conduct of Research and Practice of Medical Physics (1 cr.)	701 Ethics, Responsible Conduct of Research and Practice of Medical Physics (1 cr.)
900 Journal Club and Seminar (1 cr.)	900 Journal Club and Seminar (1 cr.)
2nd Semester (Spring)	2nd Semester (Spring)
566 Physics of Radiotherapy (3 cr.)	566 Physics of Radiotherapy (3 cr.)
588 Radiation Production and Detection (4 cr.)	578 Non-Ionizing Diagnostic Imaging (4 cr.)
580 The Physics of Medical Imaging w/ Ionizing Radiation (4 cr.)	580 The Physics of Medical Imaging w/ Ionizing Radiation (4 cr.)
900 Journal Club and Seminar (1 cr.)	900 Journal Club and Seminar (1 cr.)
*574 Medical Image Science: Applications (3 cr.) (or next spring)	*574 Medical Image Science: Applications (3 cr.) (or next spring)
3rd Semester (Fall)	3rd Semester (Fall)
569 Health Physics & Biological Effects (3 cr.)	569 Health Physics & Biological Effects (3 cr.)
671 (Special Topics) Anatomy/Physiology (2 cr.)	671 (Special Topics) Anatomy/Physiology (2 cr.)
572 Advanced Radiation Treatment Planning (3 cr.)	581 Lab: Physics of Medical Imaging w/ Ionizing Radiation (1 cr.)
581 Lab: Physics of Med. Imaging w/ Ionizing Radiation (1 cr.)	900 Journal Club and Seminar (1 cr.)
900 Journal Club and Seminar (1 cr.)	
Electives: Choose from:	Electives: Choose from:
Statistics 541, 571 or equivalent (3-4 cr.)	Statistics 541, 571 or equivalent (3-4 cr.)
Med. Phys. 571 Advanced External Beam Radiotherapy (3 cr.)	Med. Phys. 571 Advanced External Beam Radiotherapy (3 cr.)
Med. Phys. 777 Principles of X-ray Computed Tomography (3 cr.)	Med. Phys. 572 Advanced Radiation Treatment Planning (3 cr.)
Med. Phys. 679 Radiation Physics Metrology (3 cr.)	Med. Phys. 777 Principles of X-ray Computed Tomography (3 cr.)
Med. Phys. 710 Advances in Medical Magnetic Resonance (2 cr.)	Med. Phys. 679 Radiation Physics Metrology (3 cr.)
Physics 623 Electronic Aids to Measurement (4 cr.)	Med. Phys. 710 Advances in Medical Magnetic Resonance (2 cr.)
	Physics 623 Electronic Aids to Measurement (4 cr.)
4th Semester (Spring)	4th Semester (Spring)
574 Medical Image Science: Applications (3 cr.) (*if not taken previously)	574 Medical Image Science: Applications (3 cr.) (*if not taken previously)
578 Non-Ionizing Diagnostic Imaging (4 cr.)	588 Radiation Detection and Production (4 cr.)
900 Journal Club and Seminar (1 cr.)	900 Journal Club and Seminar (1 cr.)
Electives: Choose from:	Electives: Choose from:
Med. Phys. 530 Medical Imaging Systems (3 cr.)	Med. Phys. 530 Medical Imaging Systems (3 cr.)
Med. Phys. 770 Advanced Brachytherapy Physics (3 cr.)	Med. Phys. 770 Advanced Brachytherapy Physics (3 cr.)
Med. Phys. 780 Pharmacokinetic Modeling in Biomedical Imaging (2 cr.)	Med. Phys. 780 Pharmacokinetic Modeling in Biomedical Imaging (2 cr.)
Biological Science (e.g., Oncology 401, Neuroscience 524, Physiology 335)	Biological Science (e.g., Oncology 401, Neuroscience 524, Physiology 335)