

Graduate School of Biomedical Science and Engineering
List of subjects in the Medical Physics Educational Program

Category	Subject	Credit	Type	Required	Required for QBSE (*1)	Required for MBSE (*2)	Elective
Master's	Introduction for Cooperation in Biomedical Science and Engineering	2	Lecture	✓			
	General Research on Biomedical Science and Engineering I	2	Seminar	✓			
	General Research on Biomedical Science and Engineering II	8	Practical training	✓			
	Radiation Physics for Biomedical Science and Engineering	2	Lecture	✓			
	Particle Therapy Physics	2	Lecture		✓		
	Physics and Engineering for Radiation Therapy	2	Lecture		✓		
	Diagnostic Radiology for Biomedical Science and Engineering	2	Lecture	✓			
	Functional Imaging for Diagnosis in Biomedical Science and Engineering	2	Lecture	✓			
	Basic Physics for Diagnostic Radiology and Nuclear Medicine	2	Lecture	✓			
	Physics for Biomedical Science and Engineering	2	Lecture	✓			
	Introduction to Biomedical Science and Engineering Research	1	Lecture				✓
	Research planning for Biomedical Science and Engineering Research	1	Lecture	✓			
	Statistics for Biomedical Science and Engineering	2	Lecture	✓			
	Radiation Protection for Biomedical Science and Engineering	2	Lecture	✓			
	Biomedical Science and Engineering Special Lecture on International Standards, Laws, and Risk Analysis	1	Lecture	✓			
	Information Programming Advanced Course	1	Lecture				✓
	Radiation Measurement in Clinical Practice	2	Lecture	✓			
	Medical Informatics and Information Engineering	1	Lecture	✓			
	Image Processing for Biomedical Science and Engineering	2	Lecture	✓			
	Radiation Biology	1	Lecture	✓			
Radiation Oncology for Cooperation with Biomedical Science and Engineering	2	Lecture	✓				
Molecular Tumor Pathology	2	Lecture				✓	
Basic Physics for Radiation Therapy	2	Lecture			✓		
Advanced Physics for Diagnostic Radiology and Nuclear Medicine	2	Lecture			✓		
Undergraduate	Physics I	2	Lecture	✓			
	Physics II	2	Lecture	✓			
	Nuclear Physics	2	Lecture				✓
	Statistical Mechanics I	2	Lecture				✓
	Quantum Mechanics I	2	Lecture				✓
	Mathematical Methods of Physics I	2	Lecture				✓
	Atomic Physics	2	Lecture				✓
	Thermodynamics I	2	Lecture				✓
	Quantum Mechanics	2	Lecture				✓
	Applied Mathematics I	2	Lecture				✓
	Applied Mathematics II	2	Lecture				✓
	Basic Anatomy	2	Lecture	✓			
Physiology	2	Lecture	✓				
Doctoral	Advanced Research on Biomedical Science and Engineering I	2	Seminar	✓			
	Advanced Research on Biomedical Science and Engineering II	8	Practical training	✓			
	Clinical Medical Physics Training (Quality Assurance)	4	Practical training	✓			
	Clinical Medical Physics Training (Proton/Image-guided Radiation Therapy)	4	Practical training	✓			
	Clinical Medical Physics Training (Treatment Planning)	4	Practical training	✓			

*1 Course of Quantum Biomedical Science and Engineering

*2 Course of Molecular Biomedical Science and Engineering

Courses conducted in Japanese