



FIRST YEAR					
Fall Semester			Spring Semester		
Code	Title	ECTS	Code	Title	ECTS
PHY 5127	Quantum Theory I	8	PHY 5132	Classical Electrodynamics I	8
PHY 5133	Classical Mechanics	8	PHY 5096	M.Sc. Seminar	3
FBE 5555	Scientific Research Techniques and Publication Ethics	5		Elective Course	19
PHY 5098	M.Sc. Research	3			
	Elective Course	6			
		TOTAL: 30			TOTAL: 30
	Elective Courses			Elective Courses	
PHY 5011	Superconductivity I	7	PHY 5126	Mathematical Methods in Physics I	8
PHY 5147	Computational Micromagnetism	7	PHY 5194	Magnetic Properties of Thin Films and Nanoparticles	7
PHY 5033	Molecular Physics	7	PHY 5140	Nuclear Physics II	8
PHY 5059	Semiconductivity I	7	PHY 5182	Particle Physics II	8
PHY 5063	Liquid Crystals I	7	PHY 5146	Superconductivity II	8
PHY 5067	Stochastic Processes in Physics I	7	PHY 5148	Crystallography II	8
PHY 5071	Computational Physics I	7	PHY 5162	Advanced Molecular Physics	8
PHY 5073	Nuclear Physics I	7	PHY 5128	Quantum Theory II	8
PHY 5075	Non-equilibrium Statistical Mechanics I	7	PHY 5194	Semiconductivity II	8
PHY 5077	Complex Systems I	7	PHY 5184	Liquid Crystals II	8
PHY 5058	Density Functional Theory I	7	PHY 5136	Nonlinear Dynamics and Chaos II	8
PHY 5087	Quantum Theory of Many Particle Systems I	7	PHY 5150	Stochastic Processes in Physics II	8
PHY 5055	Quantum Theory of Solids I	7	PHY 5152	Computational Physics II	8
PHY 5117	Physics of Low-Dimensional Semiconductor Structures I	7	PHY 5186	Non-equilibrium Statistical Mechanics II	8
PHY 5101	Phase Transitions and Critical Phenomena I	7	PHY 5188	Complex Systems II	8
PHY 5105	Data Analysis Techniques for High Energy Physics I	7	PHY 5154	Density Functional Theory II	8
PHY 5107	Dark Matter Research	7	PHY 5166	Quantum Theory of Many Particle Systems II	8
PHY 5109	Magnetic Resonance I	7	PHY 5168	Phase Transitions and Critical Phenomena II	8

PHY 5111	Group Theory	7	PHY 5170	Quantum Theory of Solids II	8
PHY 5113	Quantum Optics	7	PHY 5172	Physics of Low-Dimensional Semiconductor Structures II	8
PHY 5115	Crystal Engineering	7	PHY 5174	Data Analysis Techniques for High Energy Physics II	8
PHY 5121	Particle Physics I	7	PHY 5176	Magnetic Resonance II	8
PHY 5125	Mathematical Methods in Physics II	7	PHY 5178	Aperiodic Crystals	8
PHY 5139	Quantum Field Theory I	7	PHY 5180	Molecular Modelling	8
PHY 5135	Nonlinear Dynamics and Chaos I	7	PHY 5144	Quantum Field Theory II	8
PHY 5131	Classical Electrodynamics II	7	PHY 5142	Relativistic Quantum Theory	8
PHY 5129	Quantum Statistical Mechanics	7	PHY 5134	Analytical Mechanics	8
PHY 5141	Introductory to Elementary Particle Physics I	7	PHY 5156	Introductory to Elementary Particle Physics II	8
MAT 5101	Applied Mathematics	9	MAT 5102	Numerical and Approximate Methods	9
PHY 5143	Modern Quantum Mechanics I	8	PHY 5190	Modern Quantum Mechanics II	8
PHY 5145	Fundamentals of Magnetism	7	PHY 5192	Artificial Neural Networks and Applications in Physics	7
PHY 5025	Crystallography I	7	PHY 5130	Statistical Mechanics	8

SECOND YEAR					
Fall Semester			Spring Semester		
Code	Title	ECTS	Code	Title	ECTS
PHY 5099	M. Sc. Thesis	30	PHY 5099	M. Sc. Thesis	30
		TOTAL: 30			TOTAL: 30