Courses for graduate students (2019)

Courses with * can be instructed in English

Module	Course title	Credit	Semester	Compulsory/ Elective	Taken into GPA or not	Remark
专业基础课 Major fundamental courses	研究生量子力学* Quantum mechanics for graduate students*	4	Fall	Alternative	N	The course are available to choose as long as the total credits meet the requirement.
	高等量子力学 Advanced quantum mechanics	3	Fall		N	
	高等电动力学和分析力学 Advanced electrodynamics and analytical mechanics	4	Fall		N	
	物理学的数学和数值方法（I） Mathematical and numerical methods for physics (I)	3	Fall		N	
	量子场论基础* Fundamentals of quantum field theory*	4	Fall		N	
	粒子物理与核物理基础* Fundamentals of particle and nuclear physics*	4	Fall		N	
	等离子体物理* Plasma physics*	3	Fall		N	
	高等凝聚态物理*	4	Spring		N	

	Advanced condensed matter physics*					
	非线性光学* Nonlinear optics*	4	Spring		N	
	量子光学 Quantum optics	4	Spring		N	
	高等统计物理* Advanced statistical physics*	4	Spring		N	
专业前沿课 Major frontier courses	学术写作、规范与伦理 Scientific writing, integrity and ethics	1	Fall/Spring	Compulsory	N	
	粒子物理与核物理实验前沿选讲* Selected topics on the experimental frontiers of particle and nuclear physics*	3	Spring		N	
	粒子物理与核物理理论前沿选讲* Selected topics on the theoretical frontiers of particle and nuclear physics*	3	Spring		N	
	激光等离子体物理 Laser plasma physics	3	Spring		N	
	超快光学 Ultrafast optics	2	Fall		N	
	纳米光子学* Nanophotonics*	3	Spring		N	

专业选修课 Major elective courses	物理学的数学和数值方法（II） Mathematical and numerical methods for physics (II)	2	Spring		N	
	粒子物理与核物理实验方法 * Experimetal methods for particle and nuclear physics*	4	Spring		N	
	规范场论 Normative field theory	3	Spring		N	
	原子核理论 Nuclear theory	3	Fall		N	
	现代激光技术 * Modern laser technology	3	Fall		N	
	应用光学 Applied Optics	2	Spring		N	
	原子分子物理前沿 Frontiers of atomic and molecular physics	3	Spring		N	
	固体物理实验方法 Experimental methods of solid matter physics	4	Spring		N	
	表面及低维物理 Surface and low-dimensional physics	3	Fall		N	
	材料科学中的表面分析技术 Surface analysis technology of material sciences	3	Fall		N	
	材料制备及晶体生长科学	2	Spring		N	

	Material preparation and crystal growth science					
	固体光谱和光散射 Solid spectrum and light scattering	2	Spring		N	
	傅立叶光学和统计光学导论 Introduction to Fourier optics and statistical optics	2	Fall		N	
	量子电子学 Quantum Electronics	3	Spring		N	
	原子分子光谱学 Atomic and molecular spectroscopy	3	Spring		N	
	固体多体理论 Solid multibody theory	3	Fall		N	
	计算材料物理 Calculating material physics	2	Fall		N	
	生物物理学 * Biophysics*	3	Spring		N	
	凝聚态输运理论 Condensed matter transport theory	3	Spring		N	
	软物质物理导论 Introduction to soft matter physics	3	Fall		N	