Education Plan for Academic Graduate in Physics

Discipline Code:0702,Award Master Degree of Science

I Objectives

The primary goals of the graduate program in physics at WHUT are to solidify and broaden your knowledge of physics and to teach you how to do research, how to identify important problems, and how to communicate scientific information effectively. In short, you will be trained to become a professional physicist and a productive member of the scientific community.

1．Understand the theories and ongoing research focuses concerning physics and keep updated along with their advancement;

2．Build an independent thinking ability on physical theories and their applications;

3．Create strong potentials to independently carry on experiments, fulfill a design and working with team members;

4．Write research papers, be capable in conducting seminars and working activities;

5．Master a foreign language, can skillfully read professional foreign language materials and write papers.

6．Maintain a good physical and mental health quality.

II Disciplinary Research Areas

1. Condense matter physics
2. Optics
3. Radio physics
4. Theoretical physics
5. Plasma physics
6. Atomic and molecular physics

III Educational System and Years of Study

The educational system for a full-time academic graduate is three years and the study period lasts generally three years, no more than five years.

IV Curriculum System and Credit Requirements

Total credits for academic graduate　27 credits.

Course Category	Course No.	Course Name	Hour	Credit	Semester	School	Remark
Common Degree Course	003281001	First Foreign Language(Chinese)	108	6	1、2	School of Internation Education	Compulsory
	003281002	Introduction to China	54	3	1	School of Internation Education	Compulsory
	01421061	Equations of Mathematical Physics	36	2	1	School of Science	Science students shall select 2 mathematics curriculum as degree courses
	01421062	Matrix Theory	36	2	1	School of Science	
	01421063	Applied Mathematical Statistics	36	2	1	School of Science	
	01421064	Stochastic process	36	2	2	School of Science	
	01421065	Numeral Calculations	36	2	2	School of Science	
	01421066	Mathematical model	36	2	2	School of Science	
Professional degree Course	01421201	Advanced Quantum Mechanics	54	3	1	School of Science	6 credits
	01421202	Solid Physics	54	3	1	School of Science	
	01421203	Advanced Optics	54	3	1	School of Science	
	01421204	Advanced Electromagnetic theory	54	3	1	School of Science	
	01421209	Computational Physics	36	2	1	School of Science	
	01421206	Computational Electromagnetics	54	3	1	School of Science	
	01421207	Guided Wave Optics	36	2	1	School of Science	
	01421208	Frontiers & Advances in Physics	36	2	2	School of Science	
Elective	01422201	Theory & Applications of Laser	36	2	2	School of Science	5 5 credits
	01422202	Photonic System & Signal Detection	36	2	2	School of Science	
	01422203	Sensor Technology	36	2	2	School of Science	

Course Category	Course No.	Course Name	Hour	Credit	Semester	School	Remark
	01422204	Nonlinear Optics	36	2	2	School of Science	
	01422205	Integrated Optics	36	2	2	School of Science	
	01422206	Principles of Antenna	36	2	2	School of Science	
	01422207	Wireless Communication System	36	2	2	School of Science	
	01422213	Electromagnetic Compatibility & Signal Integrity	54	3	2	School of Science	
	01422209	Theory & Applications of High-pressure Experimentation	54	3	2	School of Science	
	01422210	Micro-analysis& research methodology for material	36	2	2	School of Science	
	01422211	Englishfor Specific Purpose	18	1	2	School of Science	
	01422214	Semiconductor Physics	36	2	2	School of Science	
Interdisciplinary elective course	02223001	Taijiquan and its	18	1	1	Department of Physical Education	
Compulsory courses	01424004	Practice		3	1-3	School of Science	
	01424002	Topics and Interim Assessment		1	1-3	School of Science	
	01424003	Academic Activities		1	3	School of Science	