



北京航空航天大学
BEIHANG UNIVERSITY

Doctoral Program for International Postgraduates

Information and Communication Engineering

信息与通信工程专业简章

Qualification

The applicant is expected to study hard, observe the Chinese laws and the regulations of Beihang University.

The applicant should have a master's degree or have the equivalent educational background of a master's degree.

The applicant should be under the age of 40 in general.

The applicant should have a good command of English and have the ability to take courses in English or Chinese.

Training Goals

To have firm and comprehensive foundation in theories and systematic and professional knowledge in the discipline concerned.

To have the capability to complete scientific research work independently.

To conduct original research in science and/ or technology.

Research Fields

Communication and Information Systems

- Information transmission and processing;
- Modern digital communications and remote telemetry;
- Aviation electronics;
- Multimedia transmission applications;
- Electronic equipment, automatic test technology;

Signals and Information Processing

- Advanced imaging technology and image understanding;
- Intelligent information processing;
- Signal processing in wireless communications;
- Advanced perceptual system;
- High-resolution image processing and analysis;

Information Networks

- Communication and network;

Transmission and Processing of Remote Sensing Information

- Remote Sensing Analysis and Application;
- Microwave remote sensing information processing;
- Microwave remote sensing system technology;
- Multi-source remote sensing information fusion;

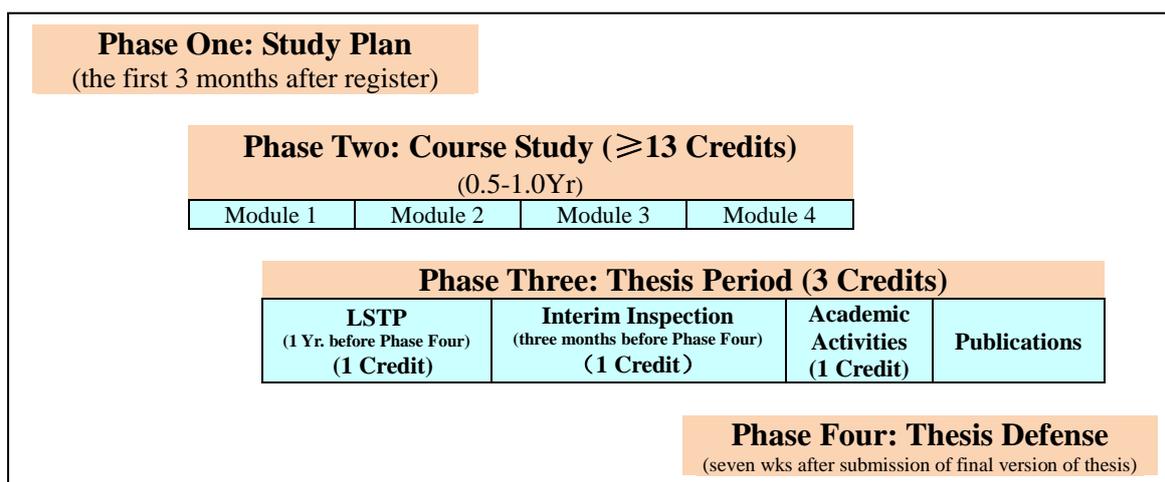
Study Periods

3-4 years.

Program Procedures

There are four Key Stages for doctoral and master programs. They are Training Plan (Stage One), Course Study (Stage Two), Thesis Period (Stage Three), and Thesis Defense (Stage Four).

To ensure the quality of study, the supervisor or the panel headed by the supervisor has the responsibility to supervise his/ her international postgraduate, including making the training plan, selecting the research project, conducting scientific research, writing thesis and organizing the final degree defense.



(LSTP: Literature Survey and Thesis Proposal)

Course Catalogue

Module 1: Language and Culture 语言和文化类课程 (4 Credits)
<ul style="list-style-type: none"> ● 253101: Chinese (3 Credits) ● 253103: Introduction (1 Credits)
Module 2: Mathematics 数学类课程 (≥ 3Credits)
(模块 2 的课程可以代替模块 3 的课程)
<ul style="list-style-type: none"> ● 253201: Theory of Matrix ● 253202: Numerical Analysis

- 253203: Differential Equations and Dynamics System
- 253204: Fractals and Wavelets
- 253205: Probability and Statistics

Module 3: Major Core Course 专业核心课

(\geq 13 Credits for master program and \geq 6 Credits for doctoral program)

模块 3.1 Scientific Thesis Writing 科技论文写作课 (1Credit)

模块 3.2 Major Core Courses

(1) Core Courses for Major “Information and Communication Engineering” 信息与通信工程核心课程

- Coding Theory (courses from overseas talent)
- Fundamentals of Information Theory
- Stochastic Process Theory
- Digital Signal Processing
- Continuous and Discrete Control Systems
- Analysis and design method of Integrated Circuits and Systems
- Telemetry and Telecontrol Systems
- Digital Communication
- (EDA)Electronic Design Automation
- Detection, Estimation, and Modulation Theory
- Cryptography and Network Security——Principles and Practices
- Introduction to Information and Systems Security
- Digital Image Processing
- Digital Communication
- Principles of Communications and Communication Networks
- Satellite Navigation
- Integrated Navigation
- 导师指定的课程 **The Courses Specified by Supervisor**

模块 4: Non-Major Core Course 非专业核心课

(经导师及学院同意，可以选择模块 4 的部分课程代替部分模块 3 的学分，其中硕士不超过 6 学分，博士不超过 3 学分。)

- Engineering Foundational Course offered by International School

- Interdiscipline Course offered by other school (s) , department(s) or major(s)
 - Advanced Electromagnetic Field
 - Engineering Electromagnetic Compatibility
 - Modern Microelectronics
 - Advanced Optics
 - Optoelectronic and Photonic
 - Synthesis Aperture Imaging
 - Optical Fiber Communications
 - Introduction to Fourier Optics
 - RF Circuit Design
 - Antenna Theory and Design
 - Computer Communication Networks
 - The signal integrity analysis
 - Radio system design of telecommunication (courses from overseas talent)
 - Physics of Modern Semiconductor Devices
 - LSI process principles
 - Computational Electromagnetics
 - Microwave Engineering
 - Synthetic experiment of electromagnetic field & wireless technology
 - Synthetic experiment of fiber optic communication & signal process
 - 导师指定的课程 **The Courses Specified by Supervisor**

Introduction of Beihang University

Beihang University is one of China's best universities in science and technology. It was founded in 1952 with the merger of the aeronautical departments of eight top Chinese universities. Since its founding, Beihang has excelled as one of the first 16 key universities in China, given priority for development. In 2017, Beihang was chosen to participate in the Double First-Class plan. At present, the university comprises more than 30 schools, covering science, technology, medicine, liberal arts, law, economy, management, philosophy, foreign languages and education. It has 2,147 full-time faculty members. Beihang has now a total enrollment of over 30,000 full-time students, including about 2,200 international students.

While maintaining its focus at home, Beihang University is also seeking collaborations abroad. Implementation of the "university-to-university, professor-to-professor, and student-to-student" development strategy has helped to build Beihang's network for international exchange and cooperation, significantly growing the university's influence

and competitiveness abroad. We believe that great students make a great university possible, and being a student in Beihang University means being a part of an energetic, dynamic group of people who are passionate, curious and committed to their areas of study, and more importantly, a global vision in this ever-changing business and technology world.

Beihang University is a campus where Chinese culture meets the West, science is interwoven with art, history and innovation coexist, and enthusiasm and inspiration work synergistically to spark creativity. This vibrant national key university continues to forge a path unceasingly toward its goal of achieving a world-class standard in education and research, while remaining deeply connected to its domestic roots.

Contact Information

- Ms GAO Xia, Ms HUANG Ping
- ADDRESS: Room 211, International School, Beihang University
- No. 37 Xueyuan Road, Haidian District, Beijing 100191, P.R. China
- TEL: +86-10-82316488, +86-10-82339158
- FAX: +86-10-82339326
- EMAIL: fso@buaa.edu.cn, huangping@buaa.edu.cn
- WEBSITE: <http://is.buaa.edu.cn>