

DONGHUA UNIVERSITY ENGLISH-TAUGHT MASTER'S DEGREE PROGRAMS

## College of Information Science and Technology

NAME OF THE PROGRAM

### Information and Communication Engineering

信息与通信工程

**RESEARCH DIRECTIONS:**

- Communication Network and Intelligent Internet of things 通信网络与智能物联网
- Wireless Communication and Intelligent Information Processing 无线通信与智能信息处理
- Image Communication and Network Security 图像通信与网络安全
- Data Science and Artificial Intelligence 数据科学与人工智能

**TYPE OF THE DEGREE:** Academic Degree

**DEGREE CONFERRED:** Master of Engineering

**SCHOOLING:** 3 years

1. BRIEF INTRODUCTION
2. PROGRAM OBJECTIVES
3. CURRICULUM
4. SUPERVISOR INFORMATION

## 1、 BRIEF INTRODUCTION

The English-taught Master of Engineering (M.E.) in Information and Communication Engineering program extensively enrolls and cultivates worldwide master's degree students under the primary discipline Information and Communication Engineering, including the two sub-disciplines of Communication and Information Systems, Signal and Information Processing. The main research themes of the discipline relate to the access, processing, transmission, and control of information in various communication and information systems. The research fields cover wireless communication and remote monitoring, network communication and sensor network, internet of things, coding and information security, image processing and pattern recognition.

## 2、 PROGRAM OBJECTIVES

According to the requirements of "facing modernization, the world, and the future" in graduate education, this program aims to cultivate talents master solid basic theories and systematic specialized knowledge in the field of electrical engineering; Familiar with the academic frontiers and current development status of electrical engineering related research directions, possessing the ability to engage in relevant scientific research or independently undertake specialized technical and management work.

## 3、 CURRICULUM

1. The 1st & 2nd semesters: courses study
2. November of the 3rd semester: thesis proposal submission and report
3. March of the 6th semester: thesis draft and Pre-defense
4. March of the 6th semester: concealed evaluation on the thesis
5. May of the 6th semester: oral defense on thesis

### **Main Courses**

1. Modern Mathematical Methods 现代数学方法 (Credit2)
2. Modern Control Theory 现代控制理论 (Credit2)
3. Pattern Recognition: Theory and Technology 模式识别原理与技术 (Credit2)
4. Intelligent Systems and Control 智能系统与控制 (Credit2)
5. Embedded Systems: Theory and Application 嵌入式系统原理与应用 (Credit2)
6. Information Security of Networks 网络信息安全 (Credit2)
7. Data Mining 数据挖掘 (Credit2)
8. Internet of Things 物联网 (Credit2)

9. Information theory and coding 信息论与编码 (Credit2)
10. Electric network analysis 电网络分析 (Credit2)
11. Modern communication technology 现代通信技术 (Credit2)
12. Image Communication and Information Processing 图像通信与信息处理 (Credit2)

### **Requirements for Thesis Work and Publication of Academic Results**

The basic requirements for the topic selection and opening report of the thesis, as well as the basic standards for the level of the thesis, shall be strictly implemented in accordance with the corresponding regulations of the "Donghua University Graduate Work Manual". The specific requirements are as follows:

(1) Thesis topic selection: After completing course studies (credits, degree courses), graduate students, under the guidance of their supervisors, choose topics with important academic and practical value that are closely related to national economic construction and social development. The thesis should have new work and insights.

(2) Opening report: The basic requirement for opening report is to consult a certain amount of literature and materials, including a considerable amount of foreign language materials, conduct research on the project, and write a literature review, provided that the graduate student has completed the required credits and passed the exam. The content of the proposal report must be standardized, including literature review, purpose and significance of the topic selection, working conditions of the paper, research methods and approaches, research objectives, and existing problems. It should be accompanied by a list of literature references, abstracts of each literature, and the review opinions of the supervisor. When there is a significant difference between the research content of the thesis and the opening report, it is necessary to reopen the topic.

(3) The basic criteria for a thesis: The research field covered by the thesis should conform to the direction of electrical engineering or related disciplines, and it should be completed independently in at least one year. The thesis should have new work and insights, have certain theoretical significance in academia or practical value in application.

Basic requirements for publishing a thesis: The research field involved in the thesis should conform to the direction of electrical engineering or related disciplines, and it should be completed independently in at least one year. The paper should have new work and insights, have certain theoretical significance in academia or practical value in application. Basic requirements for publishing papers: Before applying for a degree, master's students must obtain a total score of no less than 4 points related to the research topic of the discipline, and at least 1 academic paper must be publicly published.

## 4、SUPERVISOR INFORMATION



**Prof. Dr.** 张义红 Zhang Yihong

**Research Area:** PLC, Image processing, Sensor network, Automatic control method, The internet of the things method and application, Software engineering management

**Email:** [zhangyh@dhu.edu.cn](mailto:zhangyh@dhu.edu.cn)



**Prof. Dr.** 张光林 Zhang Guanglin

**Research Area:** wireless networks, smart grid

**Email:** [glzhang@dhu.edu.cn](mailto:glzhang@dhu.edu.cn)



**Prof. Dr.** 蒋学芹 Jiang Xueqin

**Research Area:** communication systems, Channel coding

**Email:** [xqjiang@dhu.edu.cn](mailto:xqjiang@dhu.edu.cn)



索婧慧 Suo Jinghui

**Research Area:** Complex network, analysis and control of switching system, event triggering control

**Email:** [suojinghui@dhu.edu.cn](mailto:suojinghui@dhu.edu.cn)

**Associate Professor:** 李大威 Dawei Li

**Research Area:** Image Processing, Point Cloud Processing, Artificial Intelligence, Intelligent Visual Surveillance, and Plant Phenotyping

**Email:** [daweili@hu.edu.cn](mailto:daweili@hu.edu.cn)

**Associate Professor:** 曾献辉 Zeng Xianhui

**Research Area:** Data Mining, Intelligent Algorithms and Multi-Objective Optimization

**Email:** [xhzeng@mail.dhu.edu.cn](mailto:xhzeng@mail.dhu.edu.cn)

潘峰 panfeng

**Research Area:** Embedded system and embedded AI applications, computational complexity and Kolmogorov complexity

**Email:** fpan@mail.dhu.edu.cn

陆康迪 Lu Kangdi

**Research Area:** cyber security in industrial Internet of Things and smart grids, evolutionary computation, and intelligent control.

**Email:** [kangdilu@dhu.edu.cn](mailto:kangdilu@dhu.edu.cn)



**Associate Professor:** 范红 Fanhong

Multimedia Communication and Image Processing

**Email:** [dhfanhong@dhu.edu.cn](mailto:dhfanhong@dhu.edu.cn)



李宜伦 Li Yilun

**Research area:** numerical calculation of electromagnetic fields; evolutionary algorithms; topology optimization

**Email:** [liyilun@dhu.edu.cn](mailto:liyilun@dhu.edu.cn)



曹誉文 Cao Yuwen

**Research area:** High frequency millimeter wave communication perception technology for 6G; Intelligent network control and management; Machine learning algorithms.

**Email:** [ywcao@dhu.edu.cn](mailto:ywcao@dhu.edu.cn)



**Associate Professor:** 许武军 Xu Wujun

**Research area:** Edge computing and artificial intelligence; Image processing and machine vision; Satellite navigation and integrated positioning; Intelligent Wearing and Internet of Things

**Email:** [wujun.hsu@qq.com](mailto:wujun.hsu@qq.com)



东华大学—大唐移动物联网联合实验室(Donghua University-Datang mobile Internet of Things Joint Laboratory)



信息学院大楼 Building of College of Information Science and Technology