**Student Recruitment Brochure**

**Computer Science and Technology(CST)- undergraduate level**

Teaching language: English

**CST Program Educational Objectives**

The Program Educational Objectives of the Computer Science and Technology (CST) program are:

1. Graduates of the program will be employed in the computing profession, and will be engaged in learning, understanding, and applying new ideas and technologies as the field evolves.

2. Graduates with an interest in, and aptitude for, advanced studies in computing will have completed, or be actively pursuing, graduate studies in computing.

3. Graduates will be informed and involved members of their communities, and responsible engineering and computing professionals who take appropriate account, in their professional work, of such issues as privacy, security, copyright etc. in ways that are consistent with the ACM/IEEE Code of Conduct.

**CST Program Education System and Degree**

The Computer Science and Technology (CST) program education system is 4 years. Students graduating from the CST program are awarded a Baccalaureate of Engneering, in accordance with the bachelor degree granting conditions of Henan University of Technology.

**Featured courses**

|  |  |  |
| --- | --- | --- |
| COURSE TITLE | CREDITS | TOTAL CLASS HOURS |
| Chinese Reading &Writing | 2 | 32 |
| Chinese Listening | 2 | 32 |
| Chinese Speaking | 2 | 32 |
| China Panorama | 2 | 32 |
| Chinese Kongfu | 0.5 | 8 |
| Experimental Course of Chinese Culture | 0.5 | 8 |
| Calculus  | 6 | 96 |
| Probability Theory and Mathematical Statistics | 4 | 64 |
| C Programming | 4 | 64 |
| Object-Oriented Programming | 4 | 64 |
| Data Structure | 4 | 64 |
| Operating System | 4 | 64 |
| Computer Organization | 3.5 | 56 |
| Java Programming | 4 | 64 |
| Computer Networks | 3.5 | 56 |
| Introducetion to Software Engneering | 3 | 48 |
| Database System Principles and Its Applications | 4 | 64 |
| Algorithm Analysis | 3 | 48 |
| Artificial Intelligence | 3 | 48 |
| Python Programming | 3 | 48 |
| Big Data Processing | 3 | 48 |
| Software Testing, Verification and Validation | 3 | 48 |
| Software Project Management | 3 | 48 |
| Machine Learning | 3 | 48 |
| Digital Image Processing | 3 | 48 |
| Project: Development of Application Using C Language | 2 | 56/2 weeks |
| Project: Design of Data Struture and Algorithm | 2 | 56/2 weeks |
| Project: Development of Web Application Using Java Language | 2 | 56/2 weeks |
| Project: Development of Database Application System | 2 | 56/2 weeks |

**Computer Science and Technology(CST)- Master level**

Teaching language: English

**Training goals**

This discipline aims to cultivate the comprehensive development of knowledge, ability and quality, master the basic theories and expertise of computer science and technology, possess innovative and realistic spirit and rigorous scientific research style, and possess professional talents with the ability to engage in scientific research in this discipline. Specific requirements are as follows:

1. Master solid basic theories and systematic expertise, understand the latest frontiers and trends in the subject field, and have the ability to independently engage in scientific research in the subject;

2. Master a foreign language and be proficient in professional literature reading and scientific writing;

3. Have a rigorous scientific research style, good innovation, truth-seeking and teamwork spirit, strong communication and communication skills;

4. Competent in teaching, scientific research, technology development and technology management related to the computer field.

**Length of study**

The standard academic system is 3 years, and the longest is no more than 5 years. In principle, the time from the beginning of the dissertation to the defense is not less than 1 year.

**Featured courses**

|  |  |  |
| --- | --- | --- |
| COURSE TITLE | CREDITS | TOTAL CLASS HOURS |
| Chinese Reading &Writing | 2 | 32 |
| Chinese Listening &Speaking | 2 | 32 |
| China Panorama | 2 | 32 |
| Experimental Course of Chinese and Perceive Chinese Social Practice | 0.5 | 6 |
| Matrix Theory and Method | 2 | 32 |
| Design and analysis of Advanced Algorithms | 2 | 32 |
| Advanced Distributed System | 2 | 32 |
| Advanced Computer Architecture | 2 | 32 |
| [Machine](http://cn.bing.com/dict/search?q=Machine&FORM=BDVSP6&mkt=zh-cn) [Learning](http://cn.bing.com/dict/search?q=Learning&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| [Optimality](http://cn.bing.com/dict/search?q=optimality&FORM=BDVSP6&mkt=zh-cn) [Theory](http://cn.bing.com/dict/search?q=theory&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| Advanced Database Systems | 2 | 32 |
| Introduction to Information Security | 2 | 32 |
| [Artificial](http://cn.bing.com/dict/search?q=Artificial&FORM=BDVSP6&mkt=zh-cn) [Intelligence](http://cn.bing.com/dict/search?q=Intelligence&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| [Digital](http://cn.bing.com/dict/search?q=Digital&FORM=BDVSP6&mkt=zh-cn) [Image](http://cn.bing.com/dict/search?q=Image&FORM=BDVSP6&mkt=zh-cn) [Processing](http://cn.bing.com/dict/search?q=Processing&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| Software System and Engineering | 2 | 32 |
| Advanced Computer Networks | 2 | 32 |
| [pattern](http://cn.bing.com/dict/search?q=pattern&FORM=BDVSP6&mkt=zh-cn) [recognition](http://cn.bing.com/dict/search?q=recognition&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| [Computer](http://cn.bing.com/dict/search?q=Computer&FORM=BDVSP6&mkt=zh-cn) [Vision](http://cn.bing.com/dict/search?q=Vision&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |
| [Cloud](http://cn.bing.com/dict/search?q=Cloud&FORM=BDVSP6&mkt=zh-cn) [Computing](http://cn.bing.com/dict/search?q=Computing&FORM=BDVSP6&mkt=zh-cn) | 2 | 32 |

**Control science and Engineering-Doctoral Level**

Teaching language: English

**Training goals**

This discipline cultivates high-level talents who can be competent for research, teaching, engineering development or technical management of relevant disciplines in research institutions, colleges and universities and industrial departments in the fields of advanced control theory and application, pattern recognition and intelligent system, intelligent perception and autonomous control, grain state information detection technology and devices in the future. The specific objectives are:

1. Be law-abiding, upright, honest and trustworthy, physically and mentally healthy, and have a strong sense of social responsibility and noble professional ethics.

2. Reasonable knowledge structure, profound basic knowledge of mathematics, computer and information processing, and systematic and in-depth professional knowledge in the field of control; Be familiar with the historical origin, research status and development trend of the discipline, and master the cutting-edge theories, technologies and research methods of the discipline.

3. Have sharp academic vision and careful logical thinking, and be able to aim at the international academic frontier and discover and refine theoretical problems with important academic value based on major national needs; Produce original academic achievements through independent thinking and in-depth research; Have good comprehensive quality and the ability to preside over large-scale scientific research and technological development projects.

4. Adhere to the scientific spirit of "seeking truth from facts and pursuing truth", have good academic ethics, rigorous academic attitude and strong scientific critical spirit; It has the spirit of scientific exploration that is not afraid of difficulties and tenacious.

5. Have a broad international vision, be able to skillfully use English to acquire knowledge, write scientific papers and conduct international academic exchanges; Clarify the responsibilities, rights and obligations in intellectual property protection; Have high humanistic quality, good engineering management and coordination ability.

**Research Direction**

1. Advanced control theory and Application

2. Intelligent robot and multi-agent system

3. Pattern recognition and computer vision

4. Machine learning and Intelligent Computing

5. Network security theory and technology

6. Artificial intelligence theory and technology

7. Intelligent perception and processing technology

8. Distributed and parallel computing

9. Electromagnetic wave detection technology and Application

10. Intelligent processing and control of grain information

11. Digital signal processing and system design

12. Spatial information processing technology and Application

**Length of study**

The academic system of doctoral students in this discipline is generally 4 years, with a maximum of 6 years (including suspension time). Doctoral students generally complete the course study within two years after admission, and the time for scientific research and writing dissertation shall not be less than two years.

**Training methods**

1. The training of doctoral students shall be subject to the tutor responsibility system, or the tutor based steering group (at least 3 people) responsibility system. If conditions permit, it can also be jointly cultivated with other universities, research units or enterprises, and employ personnel with senior professional titles to participate in guidance.
2. The Tutor (tutor group) shall jointly formulate the training plan with the graduate students according to the requirements of the training plan, inspect and supervise the course learning of the graduate students, and guide the topic selection, literature review, research, scientific research, dissertation writing and defense of the graduate students. The academic degree sub committee of the college shall guide and inspect the training of doctoral students.
3. In the process of training, we should adopt the method of combining theoretical learning with scientific research, and cultivate doctoral students' ability to explore and innovate and engage in scientific research independently in high-level scientific research projects. In particular, doctoral students should be encouraged to participate in academic exchange activities at home and abroad to improve the international level of doctoral students' training in this discipline.