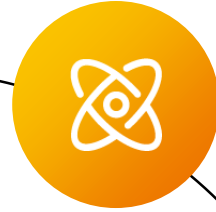# Huawei ICT Academy Course Catalog
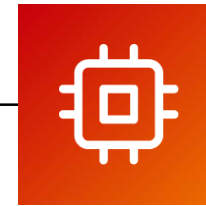
Academy Curriculum classification

General Courses

For students who'd like to start exploring opportunities in tech

- No requirements for students' majors
- Free of charge
- Usually self-study
- 2 – 4 lessons/course

Professional Courses

For students who'd like to acquire the practical skills for entry-level technical positions

- Closely related to Huawei certifications that are widely recognized across industries
- Usually instructor-led and about 32-128 lessons per course
- Combination of hands-on practice and interactive experience

Academy Curriculum Overview Map

Click the course name ▶ Redirect to Course Profile   🪪 Instructor training   📕 Self-study   ⭐ Certification-associated

Professional Courses

Connectivity

🪪⭐
Data Communication and Network

🪪⭐
Principles and Applications of WLAN

🪪⭐
5G Network and Applications

Cloud & Computing

🪪⭐
Principles and Applications of Cloud Computing

🪪⭐
Data Storage

🪪⭐
Artificial Intelligence and Applications

App Develop

🪪⭐
Internet of Things and Applications

General Courses

📕
Introduction to 5G

📕
Development and Basic Concepts of Cloud Computing

📕
Computer Network

📕
Information Representation and Data Organization

📕
Overview of AI

📕
Data Management and Analytics

📕
Search and AI

Introduction to 5G Knowledge

GO Enroll Now **↩ Map**

Course Profile

Overview
Introduction to 5G Knowledge is aimed at students in non-computer majors to gain a basic understanding of the history and trends in 5G.

Highlights
Upon completing this course, students in non-computer majors will have a basic understanding of the 5G history and outlook, network challenges, and network transformations.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1 – 2 lessons

Recommended Follow-up Course
5G Network and Applications

- ☑ Self-study
- ☐ Lab environment
  - ☐ Physical devices
  - ☐ Online experiment
  - ☐ Simulator
- ☑ Completion certificate

5G
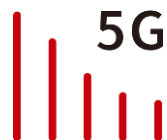
Course Outline

- History and outlook
- Industry trends and network challenges
- 5G technology revolution

Course Structure

- 13 course modules
- 1 experimental module
- 3 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

5G Network and Applications

GO Sign up today   ↩ Map

If you are already a student, contact your academy.

Course Profile

Overview
5G Network and Applications is aimed at students in information sciences and communication engineering majors to help them understand basic mobile communication networks and key 5G network technologies, cultivate their 5G service skills, and understand 5G solutions in related industries.

Highlights
This course addresses the talent gap in 5G. It is designed as vocational training. It includes 32 hours of theory, covering 5G development and evolution, 5G network architecture and key technologies, innovative 5G applications, basic 5G services and functions, and 5G industry application solutions.

Career Guidance
- After completing this course, students will have the knowledge and skills required for 5G industry solution engineers and pre-sales solution engineers.
- **After completing this course, students can directly take the HCIA- 5G certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
32 lessons (all for theory)

Applicable Majors
Majors related to information sciences and communication engineering

Required Knowledge
Communication principles

Recommended Follow-up Course
None

☑ Instructor-led

☐ Lab environment
    ☐ Physical devices
    ☐ Online experiment
    ☐ Simulator

☑ Completion certificate

Course Outline
- 5G development and evolution
- 5G network architecture and key technologies
- Innovative 5G applications
- Basic 5G services and functions
- 5G industry applications and solutions

Course Structure
- 56 course modules
- 4 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Computer Network

GO **Enroll Now**   ↶ Map

Course Profile

Overview
Computer Network is aimed at students in non-computer majors to learn the basic scientific concepts about computer networks, the Internet, and the Internet of Things (IoT).

Highlights
This course introduces the concept of computer network, operation of Internet services, and basics of IoT and Internet through vivid real-life examples.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1–2 lessons

Recommended Follow-up Course
Data Communication and Network Technology

☑ Self-study

☐ Lab environment

  ☐ Physical devices

  ☐ Online experiment

  ☐ Simulator

☑ Completion certificate

Course Outline

- Computer networks
- Internet protocols
- Network resource sharing
- IoT
- Network operating system — VRP
- Huawei switch VLAN configuration

Course Structure

- 15 course modules
- 2 experimental modules
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Data Communication and Network

GO Sign up today   ↶ Map

If you are already a student,
contact your academy.

Course Profile

Overview
Data Communication and Network is intended for students in information science and computer majors to develop their skills in enterprise network construction, O&M, management, and troubleshooting.

Highlights
This course addresses the talent gap in datacom networks. It is designed as vocational training, and includes lab practice and in-class quizzes.

Career Guidance
- Upon completing this course, students will be able to build an enterprise network with routers and switches, WLAN, and network security technologies, as well as perform routine network O&M and troubleshooting.
- **After completing this course, students can directly take the HCIA-Datacom certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
128 lessons (56 for theory and 72 for hands-on practice)

Applicable Majors
Majors related to information sciences and computers

Required Knowledge
Routing and switching basics, computer application fundamentals

Recommended Follow-up Courses
HCIP-Datacom-Carrier IP Bearer
HCIP-Datacom-Advanced Routing & Switching Technology
HCIP-Datacom-Network Automation Developer
HCIP-Datacom-Campus Network Planning and Deployment
HCIP-Datacom-SD-WAN Planning and Deployment
HCIP-Datacom-Enterprise Network Solution Design
HCIP-Datacom-WAN Planning and Deployment

☐ Instructor-led

☑ Lab environment
   ☑ Physical devices
   ☑ Online experiment
   ☐ Simulator

☑ Completion certificate

Course Outline
- Ethernet switch networks
- WAN fundamentals
- Interconnected IP networks
- Data communication and network fundamentals
- WLAN fundamentals
- WAN technology
- Network security, services, and applications
- SDN and network automation fundamentals
- Typical campus network architecture and cases

Course Structure
- 173 course modules
- 37 experimental modules
- 22 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Overview of AI

GO Enroll Now   **↩ Map**

Course Profile

Overview
Overview of AI is aimed at students in non-computer majors to gain a basic understanding of the definition, working principles, and development of cloud computing.

Highlights
This course introduces the fundamentals of AI, covering the founding and history of AI, schools of thought, major technical trends, as well as controversies and prospects. This course is engaging and uses vivid real-life examples.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1 – 2 lessons

Recommended Follow-up Course
Artificial Intelligence and Applications

- ☑ Self-study
- ☐ Lab environment
  - ☐ Physical devices
  - ☐ Online experiment
  - ☐ Simulator

- ☑ Completion certificate

Course Outline

- Machines that think
- Schools of thought
- Strong AI vs Weak AI
- Three major trends in AI
- AI everywhere
- Controversies
- Bright prospects

Course Structure

- 7 course modules
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Search and AI

GO Enroll Now   ↩ Map

Course Profile

Overview
Search and Artificial Intelligence is aimed at students in non-computer majors to gain a basic understanding of artificial intelligence and the typical applications of search algorithms.

Highlights
This course uses game tree cases to introduce the concept of search algorithms and basics of artificial intelligence.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1 – 2 lessons

Recommended Follow-up Course
Artificial Intelligence and Applications

☑ Self-study
☑ Lab environment
  ☐ Physical devices
  ☑ Online experiment
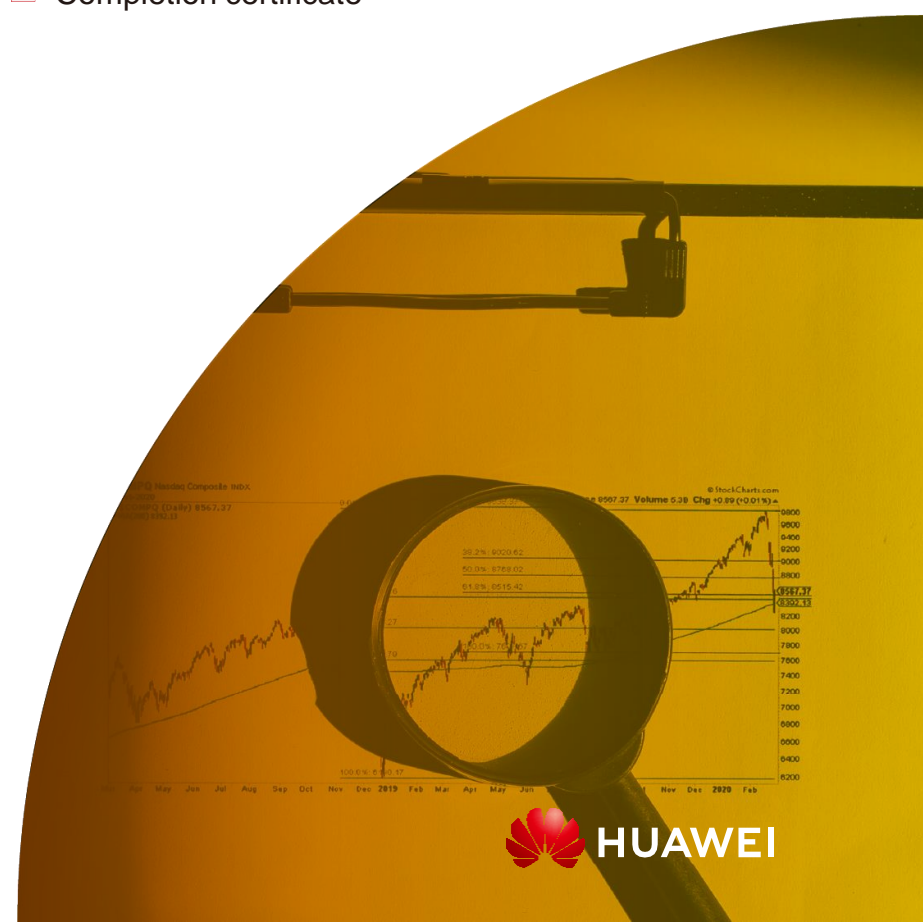 ☐ Simulator

☑ Completion certificate

Course Outline

- Game tree and pruning
- Heuristic search
- AI and machine learning
- Typical AI applications
- AI development platforms

Course Structure

- 13 course modules
- 2 experimental modules
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Artificial Intelligence and Applications

GO Sign up today   ↩ Map

If you are already a student, contact your academy.

Course Profile

Overview
Artificial Intelligence Technology and Applications is intended for students in computer majors to cultivate their ability to use algorithms such as machine learning and deep learning.

Highlights
With AI talent in high demand, we have designed this as a crash course to learn both AI theory and practical skills taught through hands-on projects. Students will complete 32 lessons of theory and 32 lessons of lab practice, covering AI, Python basics, commonly used algorithms for machine learning, and deep learning basics.

Career Guidance
- After completing this course, students will be able to master the basic principles of machine learning and deep learning, laying a solid foundation for future AI project planning and solution design.
- **After completing this course, students can directly take the HCIA-AI certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
64 lessons (32 for theory and 32 for hands-on practice)

Applicable Majors
Majors related to AI and computers

Required Knowledge
Python basics, probability theory and mathematical statistics, and programming

Recommended Follow-up Courses
HCIP-AI-Network Developer
HCIP-AI-Ascend Developer

☑ Instructor-led

☑ Lab environment
  ☐ Physical devices
  ☑ Online experiment
  ☐ Simulator
☑ Completion certificate

Course Outline
- Machine learning
- Deep learning
- AI products and applications
- Comprehensive practice

Course Structure
- 66 course modules
- 4 experimental modules
- 8 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Development and Basic Concepts of Cloud Computing

GO Enroll Now　　↩ Map

Course Profile

Overview
Development and Basic Concepts of Cloud Computing is aimed at students in non-computer majors to gain a basic understanding of cloud computing and its architecture.

Highlights
This course focuses on the basic concepts of cloud computing, cloud architecture, and development trends. Upon completing this course, students will be able to define cloud computing as well as understanding its history, features, and deployment models.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1 – 2 lessons

Recommended Follow-up Course
Principles and Applications of Cloud Computing

- ☑ Self-study
- ☐ Lab environment
  - ☐ Physical devices
  - ☐ Online experiment
  - ☐ Simulator
- ☑ Completion certificate

Course Outline
- Cloud — already here
- Advantages
- Definition
- History and trends
- Deployment models
- Service models
- Cloud architecture
- Cloud: enabler of new tech
- Cloud trends

Course Structure
- 18 course modules
- 8 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Principles and Applications of Cloud Computing

GO Sign up today | ↩ Map

If you are already a student, contact your academy.

Course Profile

Overview
Principles and Applications of Cloud Computing mainly introduces virtualization-related computing, network, and storage, as well as virtualization features, helping students quickly understand cloud computing.

Highlights
This course explains cloud computing basics, how to use virtualization technology to implement the basic features of cloud computing, and the role of virtualization technology in cloud computing. It covers cloud computing, computing virtualization, basic network knowledge in cloud computing, basic storage knowledge in cloud computing, virtualization features, and cloud computing trends. Students will learn how to configure Huawei FusionCompute.

Career Guidance
- Upon completing this course, students will understand the basic concepts in cloud computing, such as computing, network, storage virtualization, and virtualization features. They will also be able to perform basic cloud computing operations.
- **After completing this course, students can directly take the HCIA-Cloud Computing certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
32 lessons (16 for theory and 16 for hands-on practice)
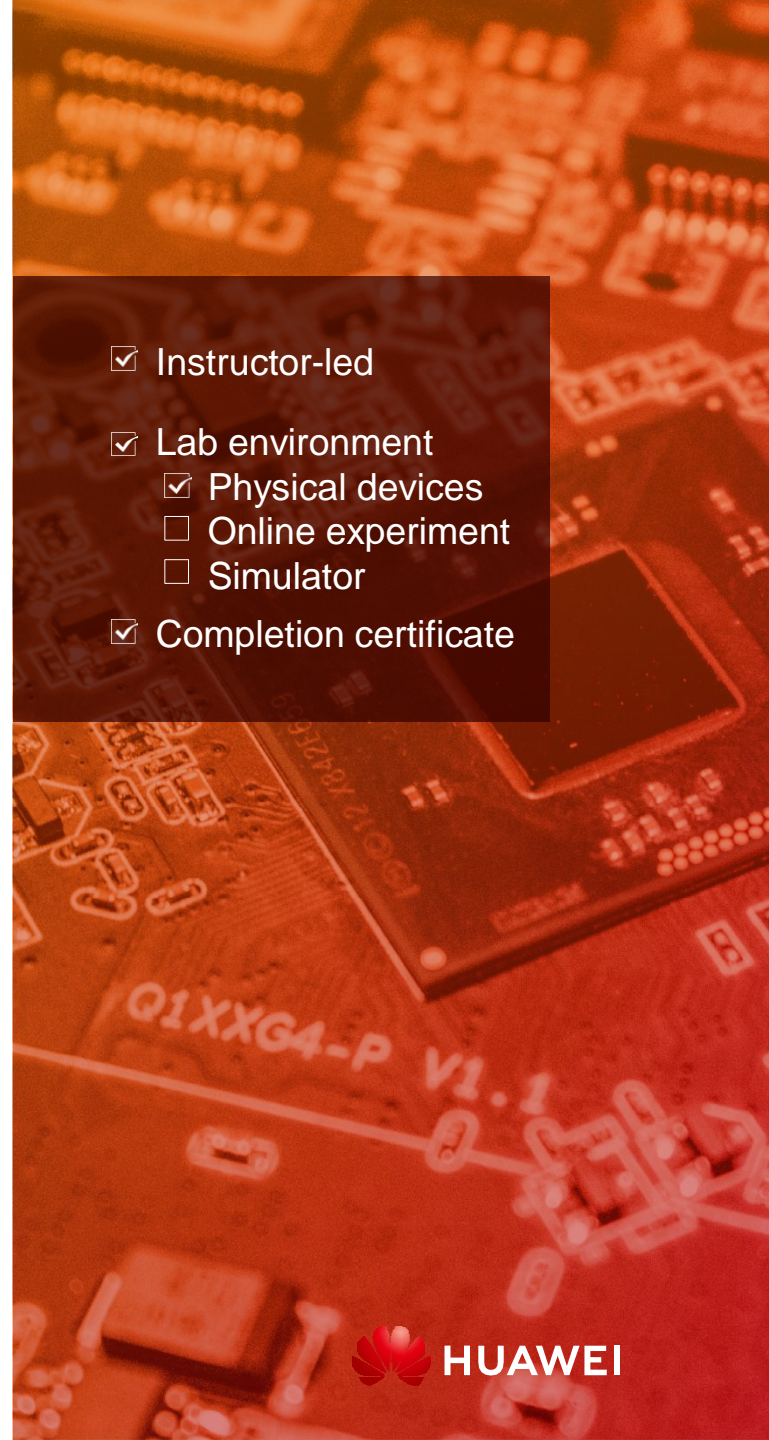
Applicable Majors
Majors related to cloud computing

Required Knowledge
IT fundamentals, server and PC operating system, Linux, and storage

Recommended Follow-up Course
HCIP-Cloud Computing

☑ Instructor-led

☑ Lab environment
  ☑ Physical devices
  ☐ Online experiment
  ☐ Simulator

☑ Completion certificate

Course Outline
- Cloud computing overview
- Compute virtualization
- Network fundamentals for cloud computing
- Storage fundamentals for cloud computing
- Virtualization features
- Cloud computing trends

Course Structure
- 28 course modules
- 3 experimental modules
- 6 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Information Representation and Data Organization

GO Enroll Now **↩ Map**

Course Profile

Overview
Information Representation and Data Organization is aimed at students in non-computer majors to gain a basic understanding on representing information and organizing data in computers.

Highlights
This course introduces the concepts of information and data, the way they are represented and organized in a computer system, along with basic knowledge presented through engaging real-life cases.

Target Audience
Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors
Majors not related to information sciences or computers

Duration
1 – 2 lessons

Recommended Follow-up Courses
HCIA-Big Data

- ☑ Self-study
- ☐ Lab environment
  - ☐ Physical devices
  - ☐ Online experiment
  - ☐ Simulator

- ☑ Completion certificate

Course Outline

- Information representation
- Information encryption, decryption, and compression
- Data organization and structure

Course Structure

- 8 course modules
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Data Management and Analytics

GO **Enroll Now** ↩ Map

Course Profile

Overview

Data Management and Analytics is aimed at students in non-computer majors to gain a basic understanding on managing and analyzing data in the digital era.

Highlights

This course introduces the functions of computer data management along with the foundations and methods for data management and analysis using real-life examples.

Target Audience

Secondary specialized school student, Junior college student, Undergraduate, General audience

Applicable Majors

Majors not related to information sciences or computers

Duration

1 – 2 lessons

Recommended Follow-up Course

HCIA-openGauss

- ☑ Self-study
- ☑ Lab environment
  - ☑ Physical devices
  - ☐ Online experiment
  - ☐ Simulator
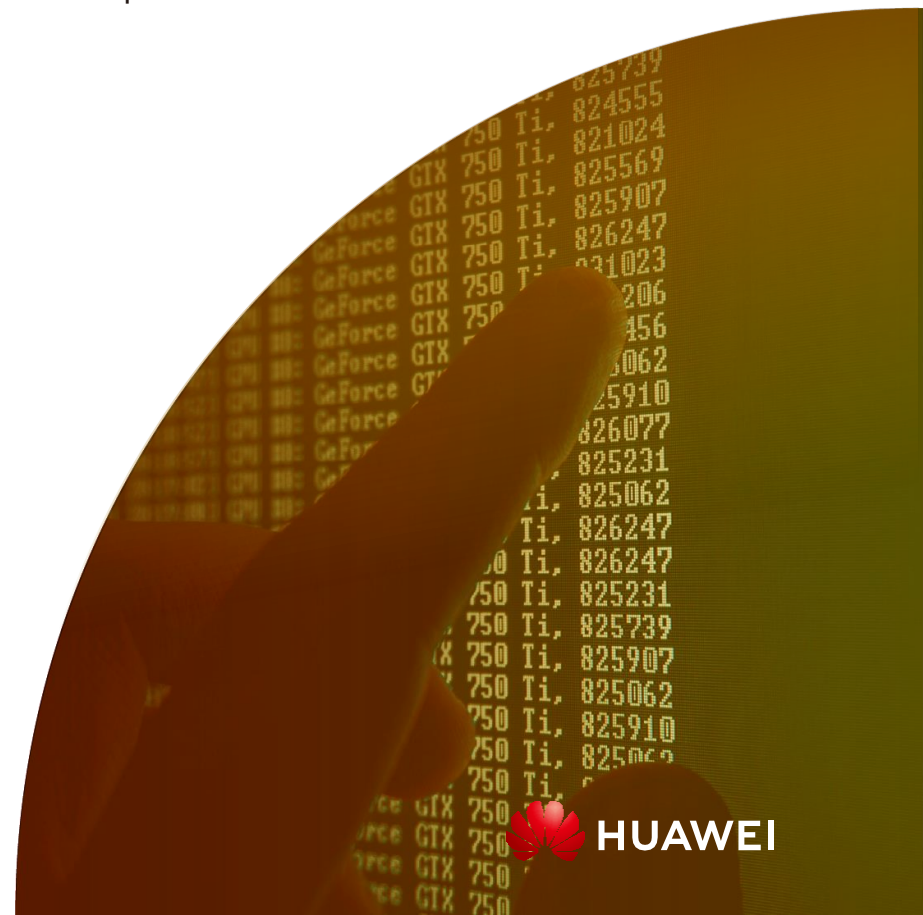
- ☑ Completion certificate

Course Outline

- Data categories
- Data management
- Data modes
- Relational models and operations

Course Structure

- 9 course modules
- 1 experimental modules
- 1 Final Exam
- 1 course satisfaction survey

HUAWEI

Data Storage

GO Sign up today   **↩ Map**

If you are already a student, contact your academy.

Course Profile

Overview
Data Storage is intended for students in computer applications and communication engineering majors to improve their skills in the configuration, networking, and maintenance of storage products.

Highlights
Aligned with Huawei certifications, this course introduces the skills required for field work. Students learn through well-designed learning routes and lab practice to meet enterprise needs in the future.

Career Guidance
- Upon completing this course, students will be able to install, deploy, and routinely manage storage platforms based on customers' requirements, laying a solid foundation for future work.
- **After completing this course, students can directly take the HCIA-Data Storage certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
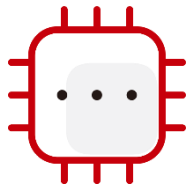64 lessons (32 for theory and 32 for hands-on practice)

Applicable Majors
Majors related to information sciences and computers

Required Knowledge
Operating system theory and technology, fundamentals of database and computer applications

Recommended Follow-up Courses
HCIP-Storage

Course Outline
- Basic storage technology
- Storage and relevant notions
- Advanced storage technologies
- Storage O&M management
- Service continuity technology and applications

Course Structure
- 40 course modules
- 7 experimental modules
- 5 quizzes
- 1 final exam
- 1 course satisfaction survey

☑ Instructor-led

☑ Lab environment
  ☑ Physical devices
  ☑ Online experiment
  ☑ Simulator
☑ Completion certificate

HUAWEI

Principles and Applications of WLAN

GO Sign up today   ↩ Map

If you are already a student, contact your academy.

Course Profile

Overview
Principles and Applications of WLAN is intended for students in computer, information science, and communication engineering majors to cultivate their skills in WLAN planning, construction, O&M, management, and troubleshooting.

Highlights
This course addresses the talent gap in WLAN. It is designed as vocational training, founded on scientific methodologies in teaching. It includes 32 lessons of theory and 32 lessons of lab practice, covering the basics of WLAN technology, WLAN networking models, WLAN working principles, WLAN online configuration, WLAN access authentication, WLAN antenna technology, and WLAN network troubleshooting.

Career Guidance
- Upon completing this course, students will be able to use WLAN planning, networking, configuration, and authentication technologies to build an enterprise-class WLAN based on actual network requirements. Moreover, they will be able to perform routine maintenance and troubleshooting on WLANs based on WLAN working principles.
- **After completing this course, students can directly take HCIA-WLAN certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
64 lessons (32 for theory and 32 for hands-on practice)

Applicable Majors
Majors related to computers, information sciences, and communication engineering

Required Knowledge
PC operating system, computer, as well as routing and switching fundamentals

Recommended Follow-up Courses
HCIP-WLAN
HCIP-Datacom-Advanced Routing & Switching Technology
HCIP-Datacom-Network Automation Developer
HCIP-Datacom-Campus Network Planning and Deployment
HCIP-Datacom-Enterprise Network Solution Design

☑ Instructor-led

☑ Lab environment
  ☑ Physical devices
  ☐ Online experiment
  ☐ Simulator

☑ Completion certificate

Course Outline

- WLAN overview
- WLAN working principles
- WLAN networking models
- WLAN configuration
- WLAN access authentication
- WLAN troubleshooting
- Wi-Fi 6 technology

Course Structure

- 41 course modules
- 12 experimental modules
- 4 quizzes
- 1 final exam
- 1 course satisfaction survey

WLAN

HUAWEI

Internet of Things and Applications

GO Sign up today ↶ Map

If you are already a student, contact your academy.

Course Profile

Overview
Internet of Things and Applications is intended for students in computer applications and communication engineering majors to improve their skills in embedded development and IoT solution development.

Highlights
This hands-on course integrates theory and practice to equip students with the necessary skills for actual jobs and enterprise projects.

Career Guidance
- Upon completing this course, students will be able to select appropriate IoT devices, networks, platforms, and applications to develop a complete IoT solution based on customers' requirements, preparing them for the job market.
- **After completing this course, students can directly take the HCIA- IoT certification exam.**

Target Audience
Secondary vocational college student, higher vocational college student, undergraduate

Duration
48 lessons (20 for theory and 28 for hands-on practice)

Applicable Majors
Majors related to computer applications and communication engineering

Required Knowledge
Operating system principles and technologies, basic C language, data communication, analog electronic circuits, and digital electronic circuits

Recommended Follow-up Course
HCIP-IoT Developer

☑ Instructor-led

☑ Lab environment
  ☑ Physical devices
  ☐ Online experiment
  ☐ Simulator
☑ Completion certificate

Course Outline
- IoT basics and solutions for the application layer
- IoT network technology fundamentals
- IoT platform fundamentals
- Embedded development and operating systems
- Device-cloud interconnection development process

Course Structure
- 36 course modules
- 4 quizzes
- 1 final exam
- 1 course satisfaction survey

HUAWEI

Thank you.

把数字世界带入每个人、每个家庭、
每个组织，构建万物互联的智能世界。

Bring digital to every person, home, and
organization for a fully connected,
intelligent world.

HUAWEI