IT Essentials 6.0

Opportunity
The Internet is changing life as we know it—bringing new opportunities to communities throughout the world, and increasing the global demand for information technology (IT) skills. Innovations such as social networking, cloud computing and mobile devices are changing the way we live, work, play, and learn. These innovations are all powered by networks, and there is a shortage of qualified ICT candidates to design, install, and manage these devices and networks.

Solution
The Cisco Networking Academy® IT Essentials curriculum provides an introduction to the technical skills needed to help meet the growing demand for entry-level IT professionals. The curriculum covers the fundamentals of computers, mobile devices hardware and software, while introducing advanced security and networking concepts and the responsibilities of an IT professional.

Features
IT Essentials 6.0 provides a comprehensive introduction to the IT industry and interactive, hands-on exposure to personal computers and mobile devices, hardware, software, and operating systems. The curriculum offers the following features and benefits:

• Students develop working knowledge of how computers operate and how to assemble them.
• Students gain confidence in working with the components of desktop and laptop computers by learning the proper procedures for hardware and software installations, upgrades, and troubleshooting.
• Curriculum materials and labs are delivered through the Cisco Networking Academy learning environment and include new topics such as data centers and cloud computing.
• Expanded mobile device hardware and software configuration and diagnostic and common security threats and vulnerabilities like malware, phishing, spoofing and social engineering.
• The enhanced user interface provides improved functionality and flexibility for instructors.
• Cisco Packet Tracer simulation-based learning activities promote the exploration of networking and network security concepts, while allowing students to experiment with network behavior.
• Online assessments provide immediate feedback to support the evaluation of knowledge and acquired skills.

Who Should Enroll
• Students seeking career-oriented, entry-level computer hardware, software, and networking skills
• Students wanting to gain fundamental computer and mobile device hardware, software configuration and troubleshooting skills
• Students who want to prepare for the CompTIA A+ certification exams

Prerequisites
None
ITE is an entry-level course

Skills for Today
IT Essentials integrates practical skills training into the technical curriculum to help students succeed in future educational, entrepreneurial, and occupational endeavors.
In addition to learning the fundamentals of hardware, software, and operating systems, students develop problem solving, critical thinking, collaboration, communication, negotiation, and entrepreneurial skills, which can help them succeed today’s global workplace.

Assessments
Formative and summative assessments are integrated into the IT Essentials curriculum and supported by an advanced online delivery system. Immediate, rich feedback supports instructor and student evaluation of acquired knowledge and skills.
Assessments can be as simple as a multiple choice question or as complex as troubleshooting a simulated network.
Cisco Packet Tracer

Packet Tracer is a powerful network simulation program developed by Cisco Networking Academy that allows students to experiment with network behavior and ask “what if” questions. As an integral part of the IT Essentials curriculum, Packet Tracer provides simulation, visualization, authoring, assessment, and collaboration capabilities and facilitates the process of teaching and learning computer technology concepts.

Packet Tracer supplements physical equipment by allowing students to create networks with an almost unlimited number of devices; encouraging open learning, experimentation, and troubleshooting. The simulation-based learning environment helps students develop decision making, critical thinking, and problem solving skills.

IT Essentials encourages students to explore networking concepts using the Cisco Packet Tracer simulation and learning tool. Packet Tracer allows students to experiment with network behavior and develop critical thinking, collaboration, and problem solving skills, while gaining practical knowledge.

Course Description

The IT Essentials course covers the fundamentals of computer and mobile devices hardware and software and advanced concepts such as security, networking, and the responsibilities of an IT professional. It is designed for students who want to pursue careers in IT and students who want to gain practical knowledge of how a computer and mobile devices works.

Students who complete this course will be able to describe the internal components of a computer, assemble a computer system, install an operating system, and troubleshoot using system tools and diagnostic software. Students will also be able to connect to the Internet and share resources in a networked environment. New topics in this version include data centers, cloud computing and networked host services. Expanded topics include more mobile device hardware configuration and diagnostic, working with mobile operating systems from Android, iOS and Windows Phone and deepening in the level security-related topics.

Packet Tracer activities are designed for use with Packet Tracer 6.2 or higher. Packet Tracer supports alignment with the CompTIA A+ 220-901 and 220-902 certification exam objectives reducing the need for academies to purchase extra networking equipment.
## Course Outline

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<th>Chapter</th>
<th>Goals</th>
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<td>1. Introduction to the Personal Computer</td>
<td>Select the appropriate computer components to build, repair, or upgrade personal computers.</td>
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<td>2. Lab Procedures and Tool Use</td>
<td>Explain the purpose of safe working conditions and safe lab procedures.</td>
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<tr>
<td>3. Computer Assembly</td>
<td>Install components to build, repair, or upgrade personal computers.</td>
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<td>4. Preventive Maintenance and the Troubleshooting Process</td>
<td>Explain how to perform preventive maintenance and troubleshooting on personal computers.</td>
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<td>5. Windows Installation</td>
<td>Perform installation of Microsoft Windows operation systems.</td>
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<tr>
<td>6. Windows Configuration and Management</td>
<td>Perform configuration, management, maintenance, and troubleshooting of Microsoft Windows operating systems.</td>
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<tr>
<td>8. Applied Networking</td>
<td>Configure devices to connect to LANs, the Internet, and Cloud services.</td>
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<tr>
<td>9. Laptops and Mobile Devices</td>
<td>Explain how to configure, repair, upgrade, maintain and troubleshoot laptops and mobile devices.</td>
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<tr>
<td>10. Mobile, Linux, and OS X Operating Systems</td>
<td>Explain how to configure, secure and troubleshoot mobile, Mac, and Linux operating systems.</td>
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<td>11. Printers</td>
<td>Install a printer to meet requirements.</td>
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<td>12. Security</td>
<td>Implement basic host, data, and network security.</td>
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<tr>
<td>13. The IT Professional</td>
<td>Explain the roles and responsibilities of the IT professional.</td>
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## Learning Outcomes

Upon completion of the IT Essentials course, students will be able to perform the following tasks:

- Select the appropriate computer components to build, repair, or upgrade personal computers.
- Explain how to correctly use tools and safely work in a lab.
- Install components to build, repair, or upgrade personal computers.
- Explain how to perform preventive maintenance and troubleshooting on personal computers.
- Install Windows operation systems.
- Perform management and maintenance of Windows operating systems.
- Configure computers to communicate on a network.
- Configure devices to connect to the Internet and Cloud services.
- Explain how to use, configure, and manage laptops and mobile devices.
- Explain how to configure, secure and troubleshoot mobile, OS X, and Linux operating systems.
- Install and share a printer to meet requirements.
- Implement basic host, data, and network security.

## Learning Environment

IT Essentials can be delivered as an independent curriculum or integrated into a broader course of study, such as technology or continuing education programs.

## Industry Recognized Certification

As a CompTIA Authorized Quality Curriculum, IT Essentials helps students prepare for the CompTIA A+ certification. The 901 exam covers Hardware, Networking, Mobile Devices and Hardware and Network Troubleshooting. The 902 exam covers Windows Operating Systems, Other Operating Systems and Technologies, Security, Software Troubleshooting and Operational Procedures. Students must pass both exams to earn the CompTIA A+ certification.

## Careers

The IT Essentials curriculum supports students who want to prepare for entry-level positions in the IT field within several different types of working environments:

- A corporate or mobile environment with a high level of face-to-face client interaction. Job titles include enterprise technician, IT administrator, field service technician, and PC technician.
- A remote work environment where client interaction, client training, operating systems, and connectivity issues are emphasized. Job titles include remote support technician, help desk technician, call center technician, IT specialist, and IT representative.
- Settings with limited customer interaction where hardware-related activities are emphasized. Job titles include depot technician and bench technician.
Translated and Accessible

We are committed to making our courses and documentation accessible and usable by all students to help them achieve their goals. Our translation strategy for IT Essentials is focused on the following languages: Arabic, Simplified Chinese, French, Russian, Brazilian Portuguese and Spanish.

IT Essentials is also compatible with screen readers for students with accessibility needs—including those with visual and dexterity limitations. Media text descriptions are provided for course content and assessments.

Cisco Networking Academy

In partnership with schools and organizations around the world, the Cisco Networking Academy program delivers a comprehensive learning experience to help students develop IT skills for entry-level career opportunities, continuing education, and globally recognized career certifications. The courses also help students build skills needed today such as collaboration and problem solving by encouraging practical application of knowledge through hands-on activities and network simulations.

Cisco Networking Academy teaches ICT skills to students from virtually every socioeconomic background and region of the world. Students gain the skills needed to pursue networking careers in a variety of industries such as technology, healthcare, financial services, fashion, and entertainment. Students also gain access to a global support group, career developments tools, and social networking resources.

For More Information

To learn more about Cisco Networking Academy, visit www.netacad.com.