

IT Fundamentals Pro for the CompTIA ITF+ Exam (FCO-U61)

Course Outline and Specification



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CompTIA®



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Introduction

CompTIA IT Fundamentals (Plus) is an introduction to basic IT knowledge and skills that helps you determine whether you have what it takes to work in IT.

CompTIA ITF+ covers all IT fundamentals, creating a broader understanding and a helpful on-ramp to tech career pathways. CompTIA ITF+ provides an IT education foundation for upskilling in secondary, post-secondary and beyond.

This self-paced IT Fundamentals online course will help with self-study and preparation for the CompTIA ITF+ certification exam (FCO-U61)

Duration

This course is offered as a self-paced learner led program that can be downloaded and completed in the learner's own time.

Course Features

Multi-format training resources and revision resources are included with this course.

Certification

There is shareable digital certification on completion of this course, further information is available at the end of the course outlines.



Chapter 1: Course Overview

1. What is Information Technology

- IT, IS and CS
- Career Exploration

2. Technology and Ethics

- Technology and Ethics Facts

Chapter 2: Information Technology Basics

1. Introduction to Computers

- Computer System Facts
- History of Computers
- Super Computers
- Human-Computer Interaction

2. Digital Data

- Number Systems
- Digital Information
- Data Representation

3. Media Formatting

- Digital Sound and Video
- File Compression
- Digital Audio Formats
- Digital Images and Formats
- 3D Models

4. Digital Media Careers

- Careers in Digital Media
- Interview: Video Production Specialist



Chapter 3: Computer Hardware

1. Computing Devices

- Computing Devices Facts

2. Internal Components

- Internal Computing Components
- Electrostatic Discharge
- The Fetch-Execute Cycle
- CPU Types
- Motherboards and Expansion Cards
- Power and Cooling Options
- Explore the Motherboard
- Install Memory
- Upgrade a Video Card

3. Input and Output

- Input and Output Hardware
- External Device Interfaces
- Installing External Devices
- Touchscreens
- Printers
- How Cameras Work
- Connect a Monitor
- Install Peripherals (USB Devices)
- Set up a Computer

4. Storage

- Storage Types
- Emerging Storage Technologies
- Install SATA Devices
- Files and File Systems
- File System Features
- Drives and Partitions
- Disk Defragmentation
- Create Volumes
- Format Drives
- Perform Disk Maintenance

5. Hardware Troubleshooting

- Troubleshooting
- Motherboard Troubleshooting
- Processor Troubleshooting
- Storage Troubleshooting
- Troubleshoot System Power
- Troubleshoot Memory
- Troubleshoot Processor Installation
- Troubleshoot SATA Devices

6. Computer Hardware Careers

- Computer Hardware Careers
- Interview: PC Repair Technician

Chapter 4: Computer Software

1. Operating Systems

- Introduction to Operating Systems
- OS Interfaces
- Windows Settings
- The Windows Registry
- Explore the Windows 10 OS
- Change Windows Settings
- Explore IOS

2. More System Software

- System Software
- Update Drivers
- The Boot Process
- BIOS Settings
- Find BIOS Settings
- Clear CMOS Settings
- Update Firmware
- Virtualization
- Enable VT in the BIOS
- Create Virtual Machines

3. File Management

- Windows File Management
- Manage Files and Folders
- Assign File Permissions
- Copy Files from a USB Thumb Drive
- NTFS Permissions
- Configure NTFS Permissions
- Using the Windows Command Line

- Use Windows PowerShell Commands
- Use Linux Shell Commands

4. Application Software

- Productivity Software
- Collaboration Software
- Business Software
- App Stores
- Managing and Using Desktop Applications
- Use Microsoft Word
- Use Microsoft PowerPoint

5. Printing

- Windows Printing Features
- 3D Printing
- Install and Configure a Local Printer
- Print a Document

6. Software Troubleshooting

- Software Troubleshooting Steps
- Using Task Manager
- Manage Applications
- Repair Programs

7. System Support Careers

- System Support Careers
- Interview: Technical Support Specialist



Chapter 5: Internet Technologies

1. The World Wide Web

- The Internet
- The Web and Other Internet Technologies
- Web Applications
- Blogs and Wikis
- RSS Feeds and Podcasts

2. Web Browsers

- Using Web Browsers
- URLs
- Website Navigation Facts
- Configuring Web Browsers
- Web Browser Troubleshooting
- Clear Browser Cache
- Configure Browser Settings
- Proxy Servers
- Use a Proxy Server

3. Cloud Computing

- Cloud Computing
- Software as a Service
- Cloud Computing Business Solutions
- Windows Cloud Storage
- Copying Files to OneDrive

4. Social Media

- Social Media
- Facebook, Twitter, and Instagram
- Online Profiles and Identities

- Crowdsourcing
- Social Media Marketing

5. Internet Communications Technologies

- Synchronous vs. Asynchronous Communication
- Email Etiquette
- Email Etiquette in Microsoft Outlook
- Texting, Messaging, and Online Chat
- Voice over IP
- Online Streaming

6. IoT – The Internet of Things

- The Internet of Things
- Digital Assistants
- Configure Smart Devices

7. Online Research

- Online Searches
- Online Academic Research
- Avoiding Plagiarism
- Performing Advanced Searches

8. Internet Technology Careers

- Internet Technology Careers
- Interview: Social Media Marketer



Chapter 6: Networking

1. Networking Basics

- Introduction to Networking
- Networking Types
- Network Topologies
- Device Addresses
- Networking Devices and Interfaces
- Network Servers
- Install a Network Adapter

2. Wired and Wireless Networking

- Network Cables
- Ethernet
- Set-up an Ethernet Connection
- Wireless Standards
- Use a Wireless Network
- Bluetooth
- Pair Bluetooth Headphones with a Mobile Device
- Configure Network Printing
- Create a Home Wireless Network

3. Internet Connectivity

- Internet Service Types
- Connect a Cable Modem
- Configure a Wireless Infrastructure
- Cellular Technology
- Manage Mobile Devices
- Virtual Private Networks
- Configure a VPN Connection

4. Networking Protocols

- Internet Protocols
- Email Protocols
- HTTP Methods and Status Codes
- DHCP
- Subnetting
- Explore Network Configuration Information
- Configure TCP/IP Settings

5. Application Delivery

- Application Delivery Methods
- Application Architecture Models
- Platforms and Licensing
- Software Installation Best Practices
- Windows Update
- Configure Windows Update

6. Network Troubleshooting

- Network Troubleshooting Tools
- Fix Network Adapter Problems
- Fix a Network Connection 1
- Fix a Network Connection 2

7. Networking Careers

- Careers in Networking
- Interview: Network Administrator



Chapter 7: Databases

1. Introduction to Databases

- What is a Database?
- Data Modelling
- Analytical Vs. Operational Data
- Database Management Systems
- Exploring an Access Database

2. Relational Databases

- Relational Databases
- Spreadsheets Vs. Databases
- Database Structure
- Types of Relationships
- Relational Methods
- Normalization
- Database Design in Microsoft Access
- Tables and Relationships

3. Querying Databases

- Database Access Methods
- Introduction to Queries
- Microsoft Access Queries

- Create Queries for a School Database
- SQL
- Basic SQL Commands
- Writing SQL Commands
- SQL: Select all Records in a Table
- SQL: Select Records with a Single Condition
- SQL: Select Records with a Multiple Conditions
- SQL: Add a New Record to a Table
- SQL: Delete a Record from a Table

4. Non-relational Databases

- Non-relational Databases
- Non-relational Database Challenges
- Big Data

5. Database Careers

- Careers with Databases
- Interview: Data Analyst



Chapter 8: Programming

1. Programming Overview

- Introduction to Programming
- Programming Terminology
- Programming Languages
- History of Programming Languages
- Working with Pseudocode

2. Programming Fundamentals

- Fundamental Data Types
- Variables and Arrays
- Programming Logic
- Programming Logic Facts
- Functions
- Using the JavaScript Code Visualizer
- JS Code Visualizer: If...Else Statement
- JS Code Visualizer: For Loop
- JS Code Visualizer: For Loop with Array
- JS Code Visualizer: While Loop
- JS Code Visualizer: Function
- Writing JavaScript Code
- JavaScript: Create an If...Else Statement
- JavaScript: Create a While Loop
- JavaScript: Create a For Loop
- JavaScript: Loop Through an Array
- JavaScript: Define and Call a Function

3. Programming Paradigms and Processes

- Programming Paradigms

- Object-Oriented Programming
- Version Control
- Integrated Development Environments
- Application Programming Interfaces
- Activity: Basic Python Scripting
- Activity: Basic JavaScript

4. Web Development

- Web Programming Overview
- HTML, CSS, and JavaScript
- HTML Tags
- Writing Simple HTML
- HTML: Define a Webpage's Head and Body
- HTML: Add Headings to a Webpage
- HTML: Create Ordered and Unordered Lists
- HTML: Add Images and Hyperlinks
- HTML: Link a CSS File to an HTML Page
- Writing Simple CSS
- CSS: Resize an Image
- CSS: Change a Page's Fonts
- CSS: Add a Drop Shadow to an Element
- JavaScript: Make a Webpage Interactive

5. Programming Careers

- Programming Careers
- Interview: Application Developer

Chapter 9: Information Systems

1. Introduction to Business Systems

- Introduction to Information Systems
- Types of Information Systems
- Artificial Intelligence
- Supply Chain Management
- Customer Relationship Management
- Cryptocurrency

2. Data Analysis

- Data and Information Assets
- Microsoft Excel Chart Types
- Use Microsoft Excel Tables to Analyze Data
- Use Microsoft Excel Tables to Analyze Data

- Use Microsoft Excel Charts to Analyze Data
- Use Microsoft Excel Charts to Analyze Data
- Microsoft Access Reports to Analyze Data

3. Intellectual Property

- Copyright and Intellectual Property
- Patents and Trademarks
- Creative Commons
- Digital Millennium Copyright Act

4. Information System Careers

- Careers in Information
- Interview: Data Analyst



Chapter 10: Cyber Security

1. Security Threats

- Confidentiality Concerns
- Integrity Concerns
- Availability Concerns
- Digital Privacy
- Malware Types
- Password Attacks
- Identity Theft
- Recognize Social Engineering Exploits 1
- Recognize Social Engineering Exploits 2
- Research Privacy Issues

2. Authentication

- Authentication
- Authorization
- Accounting
- Create a User Account
- Configure iPad Access Control and Authentication
- Research Information Security

3. Data Encryption

- Encryption
- Asymmetric Encryption
- Certificates
- Configure File Encryption
- Secure a Home Wireless Network

4. Device Security

- Password Best Practices
- Enforce Password Settings
- Securing Devices
- Device Security Facts
- Configure Remote Wipe
- Ecommerce Safeguards
- Windows Defender
- Use Windows Defender
- Windows Firewall
- Configure Windows Firewall

5. Business Continuity Plans

- Handling Confidential Information
- Confidential Information Facts
- Fault Tolerance
- Install a UPS
- RAID Implementations
- Create RAID Arrays
- Backup Considerations
- Backup Facts
- Use Backup Software
- Configure File History
- Restore Data from File History
- Disaster Recovery

5. Cyber Security Careers

- Careers in Security
- Interview: Security Analyst



Chapter 11: Career Preparation and Exam Practice

1. Education and Training

- Choosing an IT Career Path
- Future Trends in IT
- College Programs
- Certifications

2. Finding a Job

- Character and Professionalism
- Networking
- Resumes
- Interviewing Tips

3. IT Fundamentals Pro-Practice Exams

- Pro Exam Objectives
- How to Take the Pro Exam

4. IT Fundamentals Pro Question Review

- Objective 1: Hardware
- Objective 2: Software
- Objective 3: Operating Systems
- Objective 4: Networking
- Objective 5: Databases
- Objective 6: Programming
- Objective 7: Systems and Security
- TestOut IT Fundamentals Pro Certification Practice Exam

5. Prepare for CompTIA IT Fundamentals FC0-U61 Certification

- FC0-U61 Exam Objectives
- FC0-U61 Exam Objectives by Course Section
- How to take the FC0-U61 Exam
- Exam FAQs
- Hints and Tips for taking the FC0-U61 Exam

6. CompTIA IT Fundamentals FC0-U61 Domain Review (20 Questions)

- FC0-U61 Domain 1: Concepts and Terminology
- FC0-U61 Domain 2: Infrastructure
- FC0-U61 Domain 3: Applications and Software
- FC0-U61 Domain 4: Software Development
- FC0-U61 Domain 5: Database Fundamentals
- FC0-U61 Domain 6: Security



7. CompTIA IT Fundamentals FC0-U61 Domain Review (All Questions)

- FC0-U61 Domain 1: Concepts and Terminology
- FC0-U61 Domain 2: Infrastructure
- FC0-U61 Domain 3: Applications and Software
- FC0-U61 Domain 4: Software Development
- FC0-U61 Domain 5: Database Fundamentals
- FC0-U61 Domain 6: Security
- CompTIA IT Fundamentals FC0-U61 Certification Practice Exam



IT Fundamentals Pro Certification

The IT Fundamentals Pro certification measures an examinee's understanding of foundational concepts related to computer hardware and software, networking, databases, programming, information systems, and data security.

Exam Details

Exam Version and Tasks

Exam Version: 2.0
Release Date: 14/07/2020
Questions: 20
Tasks: 45

Exam Pass Criteria

Time Limit: 120 minutes
Score Range: 200-2000
Passing Score: 1,450

Exam Specification

Hardware
Software
Operating Systems
Networking
Databases
Programming
Security



CompTIA ITF+ Certification

The CompTIA IT Fundamentals (ITF+) exam focuses on the knowledge and skills required to identify and explain the basics of computing, IT infrastructure, software development and database use.

Exam Details

Exam Code and Tasks

Exam Code: FCO-U61
Release Date: 04/09/2018
Questions: 75
Tasks: Multiple Choice

Exam Pass Criteria

Time Limit: 60 minutes
Score Range: 900
Passing Score: 650

Exam Specification

The exam focuses on the knowledge and skills required to identify and explain the basics of computing.



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