

Byte Back IT Fundamentals+

Instructor

Trainer Name

Phone

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Course Overview

In 2017, nearly 5.4 million individuals worked as technology professionals across the U.S., representing an increase of 2.1%, or nearly 110,000 net new jobs. CompTIA ITF+ will help you determine if this is the field for you.

The IT Fundamentals+ Course will prepare you to take the FC0-U51 exam. You will learn computer hardware, software, networking, security, and basic troubleshooting. Having a solid understanding of these concepts will serve to further your career and prepare you to take more advanced certifications in the future.

Course Materials

- Quia class site (Provided by Trainer)
- Student flash drives containing:
 - Class slides
 - Ebook: CompTIA IT Fundamentals Certification Handbook

Our Class

- One conversation at a time
- Urgent conversations, texts, emails, etc. outside of the classroom
- We are committed to each other's' success

Attendance

There are only 32 classes in this course. Please do your best to attend each of them and stay from start to finish. There will be a twenty-minute break around the midpoint of class each day.

Homework

Spending time each day studying outside of class is essential to your learning and test preparation process. Whether reading or watching videos, please set aside at least an hour per day to study in preparation for the exams.

Food & Beverage

Beverages must be kept in closed containers. Food may only be consumed in the break room and is not permitted in classrooms.

Disclaimer

The instructor reserves the right to make modifications to this information throughout the course.

Course Schedule

Session	Topics & Activities	Homework	Activity	Test Objectives
Section 1: Hardware				
Day 1	Lesson 1A: Identifying types of computers: What is a computer?	- Find email containing Quia login information - Register for free www.itpro.tv account - Register for free www.quizlet.com account - Subscribe to the IT Fundamentals Youtube Playlist - Hardware video https://youtu.be/ctAVC2JwEwI - ITpro.tv Vids: - ITF Overview: https://app.itpro.tv/course-library/fundamentals/fundamentals-overview/ - Hardware overview: https://app.itpro.tv/course-library/fundamentals/hardware-overview/	First Day Activities Student Handbook Overview of class resources Pre-Class Survey Pre-Class Evaluation Video: Terry Crews explains why he decided to build his own PC: https://youtu.be/Pda_JiX3_JE	
Day 2	Lesson 1B: Identify Internal Computer Components: Motherboard,	- Review Slides and Notes - ITpro.tv Vids: - Internal Components: https://app.itpro.tv/course-	Activity: Inside Your Computer: https://ed.ted.com/lessons/inside-your-computer-bettina-bair Video: Computer Parts:	2.3 Identify the purpose of internal computer components

	CPU, Power Supply, RAM	library/fundamentals/internal-components/ • CPU: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/central-processing-unit-cpu/ • Motherboard and RAM: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/common-hardware-itfun/ • https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/common-hardware2/	https://youtu.be/ExxFxD4OSZ0 Video: Motherboard: https://youtu.be/nQIB5qcl3R8 https://youtu.be/csqnK_CwKrQ RAM (watch up to 3:17): https://youtu.be/PVad0c2cljo Power Supply: https://youtu.be/RUk8CUu30X0 Activities: HDD https://ed.ted.com/lessons/how-do-hard-drives-work-kanawat-senanan RAM https://ed.ted.com/lessons/how-computer-memory-works-kanawat-senanan#watch Hardware Demonstration: Motherboard, CPU, Power Supply, RAM	
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Day 3	Lesson 1B: Identify Storage Devices: Storage, Hard Drive, Solid State Drive, Optical Drive, USB Drives, Multi-Card Readers and Writers, Mobile Media Devices	- Review Slides and Notes - ITpro.tv Vids: - Storage Devices: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/storage-hardware-itfun/	Video: Computer Storage: https://youtu.be/-KRLWGaIunA HDD vs SSD: https://youtu.be/YQEjGKYXjw8 Future of storage: https://youtu.be/nyUcCnqXMKE HDDs Work: https://youtu.be/wI0upu9eVcw Hardware Demonstration: HDD, SSD, Optical Drive	2.3 Identify the purpose of internal computer components
Day 4	Lesson 1B: Identify Expansion Cards: Video Card, Audio Card, Network Card (NIC), Modem Identify Cooling Systems: fans, liquid cooling, heatsinks	- Review Slides and Notes - ITpro.tv Vids: - Connector Types: https://app.itpro.tv/course-library/fundamentals/connector-types/	Hardware Demonstration: Video Card, Network Card, Heat sink, Cooling Fan Video: Heatsink: https://youtu.be/tX2VKEesUiE When a CPU heatsink is removed: https://youtu.be/Xf0VuRG7MN4	2.3 Identify the purpose of internal computer components 2.2 Compare and contrast common connector types

	Lesson 1C: Identify Common Computer Connector Types: Ports, PS/2, Serial, Parallel, Power Connectors (ATX, Berg, Molex, SATA)			
Day 5	Review Day			
Day 6	Lesson 1C: Identify Common Computer Connector Types: USB Ports and Connectors, Firewire, Thunderbolt, Audio Ports and Connectors, Video Ports and Connectors (VGA, DVI, HDMI, Component, S-	• Review Slides and Notes • ITpro.tv Vids: • Connector Types: https://app.itpro.tv/course-library/fundamentals/connector-types/	Videos: Ports: https://youtu.be/Pt92EkFP_FQ Display Ports: https://youtu.be/f38sotYHqtA Activity: Looking at Connector Ports Take a look at the back of the lab computers. Try to identify the ports based on what we have covered in class. Project: PC Building Simulator Open the PC Building Simulator software (in flash drives or by downloading and extracting the	2.2 Compare and contrast common connector types

	Video, DisplayPort) eSATA, RJ-45, RJ-11		software from https://claudiu-kiss.itch.io/pc-building-simulator) and click the Tutorial Button. Follow the Tutorial and pay special attention to the definitions and placement of various parts: 1. PSU 2. Motherboard 3. CPU 4. GPU 5. RAM 6. HDD 7. Fans There will also be a portion dedicated to cabling. Pay attention to these cables: 1. ATX 2. PCI-E (8-pin and 6-pin) 3. SATA data 4. SATA power	
Day 7	Lesson 1D: Identify Common Computer Peripherals: Input Devices: Keyboard, Pointing Devices (Mouse,	• Review Slides and Notes • ITpro.tv Vids: • Peripheral devices: https://app.itpro.tv/course-library/fundamentals/peripheral-devices/	Video: Mouse History: https://youtu.be/6K-ATmU-NbU Keyboard History: https://youtu.be/qLAqT2U68h4 Printers: https://youtu.be/JEVurb1uVFA	2.1 Identify basic wired and wireless peripherals and their purpose

	Trackball Mouse, Touchpad, Trackpoint, Stylus pen, Joystick Output Devices: Printers (Laser, Inkjet, Thermal)			
Day 8	Lesson 1D: Output Devices: Display devices (CRT, LCD, LED, OLED, Plasma, Projector), Speakers Input / Output Devices: Multi- function devices, Flash drive, External Hard Drive, Optical Drives, Networked Attached Storage, Memory Card, Mobile Media,	• Review Slides and Notes • ITpro.tv Vids: • Peripheral devices: https://app.itpro.tv/course-library/fundamentals/peripheral-devices/	Video: Computer Monitors: https://youtu.be/uyLDA9QT8EY Activity: PC "Anatomy" Day We will open up an actual PC and take a look at some of the various important parts. Note: 1. Motherboard 2. CPU 3. HDD / SDD 4. RAM 5. Fans	2.1 Identify basic wired and wireless peripherals and their purpose

	Smartphone, Touchscreen monitors			
Section 2: Software				
Day 9	Lesson 2A: Compare Functions and Features of Common Operating Systems: Operating System Functions, Licensing (Open Source, Freeware, Commercial, Copyleft, Shareware) Workstation OS: Windows, Mac, Linux, Chrome OS Mobile OS: Apple iOS,	- Review Slides and Notes - Itpro.tv videos - Software Overview: https://app.itpro.tv/course-library/fundamentals/software-overview/ - Operating Systems: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/computer-operating-systems/ - Windows OS: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/microsoft-windows/ - Apple macOS: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/apple-macos/ - GNU Linux: https://app.itpro.tv/course-library/comptiafundamentals-exam-fc0u61/gnu-linux/	Lesson 1 Quiz Video: Binary: https://youtu.be/Xpk67YzOn5w What is an OS?: https://youtu.be/pVzRTmdd9j0 Linux: https://youtu.be/zA3vmx0GaO8 Demonstration:	1.1 Compare and contrast common OS and their functions and features

	Android			
Day 10	Review Day			
Day 11	Lesson 2A: Operating System Compatibility Issues (32 bit vs 64 bit), Drivers Lesson 2B: Identifying Application Software Productivity Software (Word Processing, Spreadsheet, Email, Database, PDF, Presentation, Desktop Publishing, Personal Information Manager, Remote Desktop)	- Review Slides and Notes - Itpro.tv videos - Application Software: https://app.itpro.tv/course-library/fundamentals/common-programs/	Videos: 32 bit vs 64 bit: https://youtu.be/Wu2A4fpFzgs TechQuickie: Drivers https://youtu.be/t-aRlwLI-b0 Who does what in IT: https://youtu.be/i5qpS_D8Law How Software is made: https://youtu.be/bWdeGTJxMQc Discussion: Exploring Applications What are the top 3 apps you use on a regular basis? What platform (OS / device) do you run the app on? Which category(s) do the apps fit into (Productivity, Collaboration, Utility, Specialized)?	1.2 Identify common programs, applications, and their purpose

	Collaboration Software (Online Workspace, Document Storage / Sharing, Screen Sharing, Video Conferencing, Instant Messaging, Email)			
Day 12	Lesson 2B: Identifying Application Software Utility Software (Antimalware, Software Firewalls, Diagnostic / Maintenance, Compression) Specialized Software (Computer-Aided Design, Graphic Design,	• Review Slides and Notes • Itpro.tv videos • Application Software: https://app.itpro.tv/course-library/fundamentals/common-programs/ • Common File Types: https://app.itpro.tv/course-library/fundamentals/common-file-types/		

	Medical, Scientific, Financial, Gaming, Entertainment) Common File Types and Extensions (Documents, Audio, Images, Video, Executables, Compression)			
Section 3: Setting Up a Basic Workstation				
Day 13	Lesson 3A: Connect Hardware Workstation Setup, Cable Management, Connect a Monitor, Connect a Keyboard, Connect a	• Review Slides and Notes • Itpro.tv videos • Setting Up a Basic Workstation: https://app.itpro.tv/course-library/fundamentals/setup-basic-workstation/	Lesson 2 Quiz Video: Setting up a printer: Setting up a Network printer: https://youtu.be/_1MVKHr4nps	

	Mouse, Connect Audio Devices, Connect Web / Digital Camera, Connect a Printer Lesson 3B: Install and Configure Operating Systems: Hardware Compatibility List, Configuration Parameters, User Accounts, Peripheral Configuration, Updates (Patch, Hotfix, Service Pack, Rollup), Configuring Screen Saver, Date and Time Settings, Display settings			
Day 14	Lesson 3C: Install and	Review Slides and Notes		

	Configure Applications: Bundled Applications, Bloatware, Application Sharing, Installing / Uninstalling Software Lesson 3D: Configure Accessibility Options: Ease of Access Tools (Narrator, Magnifier, On-Screen Keyboard, High Contrast, Sticky Keys, Filter Keys), Other OS Accessibility Features (Mac OS, Chrome OS, Android)	• Itpro.tv videos • Setting Up a Basic Workstation: https://app.itpro.tv/course-library/fundamentals/setup-basic-workstation/		
Day 15	Review Day / In-Class Speaker Day*			

	(Note: Exact Date Subject to Change)			
Section 4: Configure Network Access				
Day 16	Lesson 4A: Network Connection Types, LAN, WAN, Network Connection Methods (Wireless, Wired, Cellular), Network Characteristics (Mobility, Availability, Throughput, Bandwidth, Reliability, Concurrent Connections, Security)	- Review Slides and Notes - Itpro.tv videos - Networking Overview: https://app.itpro.tv/course-library/fundamentals/networking-overview/ - Compare Connections: https://app.itpro.tv/course-library/fundamentals/compare-connections/	Lesson 3 Quiz Video: Wi-Fi vs Wired: https://youtu.be/YTRImxNRk7U	
Day 17	Lesson 4B: SOHO Routers	- Review Slides and Notes - Itpro.tv videos	Video: Modem vs Router: https://youtu.be/Mad4kQ5835Y	4.1

	Network Devices (Hub, Switch, Router, Modem), Encryption, Wireless Encryption Standards (WEP, WPA, WPA2), SSID, SOHO Router Configuration Options, Firmware	Router Configuration: https://app.itpro.tv/course-library/fundamentals/router-configuration/	Hub, Switch, & Router: https://youtu.be/1z0ULvg_pW8 Updating Router Firmware: https://youtu.be/dEHAlcZD0U	
Day 18	Lesson 4C: Network and Alternative Technologies Virtualization, Cloud Computing, Streaming, Web Applications, VOIP, Telepresence Lesson 4D: Sharing and	- Review Slides and Notes - Itpro.tv videos - Alternative Technologies: https://app.itpro.tv/course-library/fundamentals/alternative-technologies/ - Sharing and Storage Methods: https://app.itpro.tv/course-library/fundamentals/sharing-storage/	Video: BitTorrent P2P: https://youtu.be/EkkFT1bRCT0	

	Storage Methods Local vs Hosted Storage, Peer-to-Peer Networking, HTTP & HTTPS, FTP, Printing			
Section 5: Working with Files, Folders, and Applications				
Day 19	Lesson 5A: File Types: Shortcuts, Folders, File and Folder Naming Conventions and Permissions, File Explorer Lesson 5B: Navigate a File Structure: Shortcut Keys, File Structure Navigation on	- Review Slides and Notes - Itpro.tv videos - Navigating an OS: https://app.itpro.tv/course-library/fundamentals/navigating-os/	Midterm Project: Creating Folders, Naming Folders, Creating Shortcuts, Exploring the Recycle Bin	

	Non-Windows Devices Lesson 5C: Manage Files and Folders: Basic File and Folder Management Techniques, The Recycle Bin, File Attributes, Folder Display Options			
Day 20	Review Day Midterm Reports			
Day 21	Lesson 5D Compress and Extract Files Lesson 5E Create Screen Captures	• Review Slides and Notes • Itpro.tv videos • Navigating an OS: https://app.itpro.tv/course-library/fundamentals/navigating-os/		
Section 6: Configuring				

and Using Wireless Devices				
Day 22	Lesson 6A Configure Wireless Devices Basic Security Configuration Settings, Enable Screen Lock and Passcode Settings, Bluetooth, Near Field Communication (NFC), Email Protocols (POP3, IMAP, SMTP) Data Synchronization Lesson 6B: Using Wireless Devices Gesture-Based Interactions, Screen	• Review Slides and Notes • Itpro.tv videos • Wireless Devices: https://app.itpro.tv/course-library/fundamentals/wireless-devices/	Lesson 5 Quiz	1.5 Basic software features and functions of wireless devices

	orientation, Airplane Mode, Mobile App Stores			
Section 7: Securing Computing Devices				
Day 23	Lesson 7A: Identify Common Security Threats Hackers and Attackers, Malware, Social Engineering	• Review Slides and Notes • Itpro.tv videos • Security Overview: https://app.itpro.tv/course-library/fundamentals/security-overview/ • Basic Security Threats: https://app.itpro.tv/course-library/fundamentals/basic-security-threats/	Lesson 6 Quiz Activity: Defining Cyberwarfare: https://ed.ted.com/lessons/defining-cyberwarfare-in-hopes-of-preventing-it-daniel-garrie How malware and viruses work: https://youtu.be/OTSIAzgmvAU	
Day 24	Lesson 7A (Cont.) Password Cracking, Theft Lesson 7B: Apply Security Best Practices	• Review Slides and Notes • Itpro.tv videos • Basic Security Threats: https://app.itpro.tv/course-library/fundamentals/basic-security-threats/ • Security Best Practices: https://app.itpro.tv/course-library/fundamentals/security-	Activity: Malware: https://ed.ted.com/on/UoEqI7KW	

	Type of User Accounts, Authentication Factors, Multi-Factor Authentication, Single Sign-on (SSO), Password management Best Practices	<u>practices/</u>		
Day 25	Review Day / Tech Tour Day* (Note: Exact Date Subject to Change)	•		
Day 26	Lesson 7B (Cont.) Device Hardening Best Practices, Device Hardening Techniques (Timeouts and Lockouts, Software firewall,	• Review Slides and Notes • Itpro.tv videos • Security Best Practices: https://app.itpro.tv/course-library/fundamentals/security-practices/	Discussion: What computer devices do you currently own and how secure are they?	

	Antimalware, Disable Bluetooth, Disable NFC, Encryption Options), Bluejacking, Bluesnarfing, Wireless Networking and Security, Email Best Practices, Cloud Storage Best Practices, Security Software Alerts			
Day 27	Lesson 7C: Perform Secure Web Browsing Cookies, Internet Cache, Browser Enhancements (Plug-Ins and Extensions), Digital Certificates, Invalid Certificates,	• Review Slides and Notes • Itpro.tv videos • Web Browsing Best Practices: https://app.itpro.tv/course-library/fundamentals/web-browsing-practices/	Activity: explore different browser extensions. Choose an extension and report back on what it allows your browser to do.	

	Secure Web Connections, Adware Symptoms, Personal Identifying Information, Browsing on Public Workstations			
Section 8: Supporting Computers and Users				
Day 28	Lesson 8A: Environmental and Safety Concepts Ergonomics, RoHS Guidelines, WEEE Directive, Device Disposal Options, Device Placement, Power and Energy Efficiency, Power Profiles,	• Review Slides and Notes • Itpro.tv videos • Environment and Safety: https://app.itpro.tv/course-library/fundamentals/environmental-safety/	Lesson 7 Quiz Video: Ergonomics: https://youtu.be/bLBKUbnLYTs Office Stretches: https://youtu.be/GmxtBwrfIoU WEEE Regulations: https://youtu.be/I90ZYg4Ike8 UPS: https://youtu.be/1oNdbI8NFgk	

	Power Supply Options, Electrostatic Discharge, Guidelines for Protecting Against ESD			
Day 29	Lesson 8B: Back Up and Restore Data Data Backups, Backup Methods, Backup Frequency and Schedules, Backup Storage Media, Backup Verification and Testing, Restoration methods	• Review Slides and Notes • Itpro.tv videos • Basic Backup Concepts: https://app.itpro.tv/course-library/fundamentals/basic-backup-concepts/		
Day 30	Review day			
Day 31	Lesson 8C: Manage Software	• Review Slides and Notes • Itpro.tv videos		

	Software Versions, Software Updates, Software Licensing, Guidelines for Managing Software	Software Management: https://app.itpro.tv/course-library/fundamentals/software-management/		
Day 32	Lesson 8D Implement Basic Support Measures General Troubleshooting Tips, Common Operational Problems, Boot Issues, System Management Tools (Device manager, Windows Task Manager, System Information Utility, Event Viewer, Computer	- Review Slides and Notes - Itpro.tv videos - Basic Support Concepts: https://app.itpro.tv/course-library/fundamentals/basic-support-concepts/		

	Management), Disk Management Tools (Disk Management, Check Disk Command, Format Command, Organize Device), Support Resources			
Day 33	Register for the test Review Day 1	• Study! • Don't forget your login and passwords		ALL OF THEM
Day 34	Review Day 2	• Study! • Don't forget your login and passwords		ALL OF THEM
Day 35	Test Day Post-Class Survey	• Pass the test! • Make plans for re-take (if needed)		