



# ITF+ (FC0-U61) Exam Objectives and TestOut ITF Course Resource Mapping

#	CompTIA Domain/Objective	TestOut Course References
<b>1.0 – Concepts and Terminology</b>		
<b>1.1 Compare and contrast notational systems</b>		
1.1.1	Binary	2.3.1 – Number Systems (Video) 2.3.2 – Number System Facts
1.1.2	Hexadecimal	2.3.1 – Number Systems (Video) 2.3.2 – Number System Facts
1.1.3	Decimal	2.3.1 – Number Systems (Video) 2.3.2 – Number System Facts
<b>1.1.4 Data representations</b>		
1.1.4.1	ASCII	2.3.5 – Data Representation (Video) 2.3.6 – Data Representation Facts
1.1.4.2	Unicode	2.3.5 – Data Representation (Video) 2.3.6 – Data Representation Facts
1.1.5	Conversion	2.3.1 – Number Systems (Video) 2.3.2 – Number System Facts
<b>1.2 Compare and contrast fundamental data types and their characteristics</b>		
1.2.1	Characters	8.2.1 – Introduction to Programming (Video) 8.2.2 – Programming Terminology
1.2.2	Strings	8.2.1 – Introduction to Programming (Video) 8.2.2 – Programming Terminology
1.2.3	Numbers	8.2.1 – Introduction to Programming (Video) 8.2.2 – Programming Terminology
1.2.4	Boolean values	8.2.1 – Introduction to Programming (Video) 8.2.2 – Programming Terminology
<b>1.3 Illustrate the basics of computing and processing</b>		
<b>1.3.1 Computer system</b>		
1.3.1.1	Hardware	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Devices Facts 3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts





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1.3.1.2	Software	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
1.3.1.3	User	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
1.3.2	Interfaces	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
1.3.3	Input	2.2 – Introduction to Computers
1.3.4	Processing	2.2.1 – Introduction to Computers (Video) 2.2.2 – Computer System Facts
1.3.4.1	Operating system process	2.2.1 – Introduction to Computers (Video) 2.2.2 – Computer System Facts
1.3.5	Output	2.2.1 – Introduction to Computers (Video) 2.2.2 – Computer System Facts
1.3.6	Storage	2.2.1 – Introduction to Computers (Video) 2.2.2 – Computer System Facts
<b>1.4</b>	<b>Explain the value of data and information</b>	
1.4.1	Data and information as assets (value of data)	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.1.1	Investing in security	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.1.2	Importance of investing in security (security controls)	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.1.2.1	Backup	4.3.1 – System Software (Video) 4.3.2 – System Software Facts
<b>1.4.1.2.2</b>	<b>Access control</b>	
1.4.1.2.2.1	Permissions	3.5.7 – File System Features (Video) 3.5.8 – File System Facts
1.4.1.2.2.2	Usage restrictions	4.4 – File Management
1.4.1.2.2.3	Data encryption	10.4 – Data Encryption
1.4.1.2.2.4	Firewalls	6.2.7 – Networking Device and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
1.4.1.2.3	High availability	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
<b>1.4.2</b>	<b>Intellectual property</b>	
1.4.2.1	Trademarks	9.5.2 – Patents and Trademarks (Video) 9.5.3 – Intellectual Property Facts





#	CompTIA Domain/Objective	TestOut Course References
1.4.2.2	Copyright	9.5.1 – Copyright and Intellectual Property (Video) 9.5.3 – Intellectual Property Facts
1.4.2.3	Patents	9.5.2 – Patents and Trademarks (Video) 9.5.3 – Intellectual Property Facts
1.4.2.4	Digital products	9.5.1 – Copyright and Intellectual Property (Video) 9.5.2 – Patents and Trademarks (Video) 9.5.3 – Intellectual Property Facts
<b>1.4.3</b>	<b>Data-driven business decisions</b>	
1.4.3.1	Business decisions and strategies	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.3.2	Relationship of data to creating information (data analytics)	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.3.3	Facilitating data-driven business solutions	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.3.3.1	Data capture and collection	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.3.3.2	Data correlation	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
1.4.3.3.3	Meaningful reporting	9.3.1 – Data and Information Assets (Video) 9.3.2 – Data and Information Facts
<b>1.5</b>	<b>Compare and contrast common units of measure</b>	
1.5.1	Storage unit (bit, byte, KB/MB/GB/TB/PB)	2.3.3 – Digital Information (Video) 2.3.4 – Digital Information Facts
1.5.2	Throughput unit (bps/Kbps/Mbps/Gbps/Tbps)	2.3.3 – Digital Information (Video) 2.3.4 – Digital Information Facts
1.5.3	Processing speed (MHz/GHz)	2.3.3 – Digital Information (Video) 2.3.4 – Digital Information Facts
<b>1.6</b>	<b>Explain the troubleshooting methodology</b>	
1.6.1	Problem components	3.6.2 – Troubleshooting Facts
<b>1.6.2</b>	<b>CompTIA troubleshooting model</b>	
1.6.2.1	Identify the problem	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts
1.6.2.2	Research knowledgebase/Internet, if applicable	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts
1.6.2.3	Establish a theory of probably cause (understand the problem)	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts
1.6.2.4	Test the theory to determine the cause	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts





#	CompTIA Domain/Objective	TestOut Course References
1.6.2.5	Resolve and document the problem	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts
1.6.2.6	Troubleshooting PC issues	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts 3.6.4 – Memory Troubleshooting 3.6.5 – Processor Troubleshooting
1.6.2.7	Getting support	3.6.1 – Troubleshooting (Video) 3.6.2 – Troubleshooting Facts
1.6.2.8	Using a search engine	5.8.1 – Online Searches (Video) 5.8.2 – Online Searching Facts

## 2.0 – Infrastructure

### 2.1 Classify common types of input/output device interfaces.

2.1.1	Computer port and connector types	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Device Facts
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#### 2.1.2 Networking

2.1.2.1	Wired	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Device Facts
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2.1.2.1.1	Ethernet connector (RJ-45)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
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2.1.2.1.2	Telephone connector (RJ-11)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
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#### 2.1.2.2 Wireless

2.1.2.2.1	Bluetooth	6.3.9 – Bluetooth
2.1.2.2.2	RF and Near Field Communications (NFC)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts

#### 2.1.3 Peripheral device

2.1.3.1	USB (Universal Serial Bus)	3.4 – Input and Output 3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts 3.4.3 – External Device Interfaces (Video)
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2.1.3.2	Firewire	3.4 – Input and Output 3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts 3.4.3 – External Device Interfaces (Video)
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2.1.3.3	Thunderbolt	3.4 – Input and Output 3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts 3.4.3 – External Device Interfaces (Video)
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2.1.3.4	Bluetooth	6.3.9 – Bluetooth
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#	CompTIA Domain/Objective	TestOut Course References
2.1.3.5	RF and Near Field Communications (NFC)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
<b>2.1.4</b>	<b>Graphic devices</b>	
2.1.4.1	Graphic device components	3.3.7 – Motherboards and Expansion Cards 3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.1.4.2	Resolution and color depth	2.4 – Media Formatting
2.1.4.3	Speed at which display is refreshed	2.3.3 – Digital Information (Video) 2.3.4 – Digital Information Facts 3.4 – Input and Output
<b>2.1.4.4</b>	<b>Graphic device interfaces</b>	
2.1.4.4.1	Video signals	2.4.1 – Digital Sound and Video (Video) 2.4.2 – Digital Sound and Video Facts
2.1.4.4.2	VGA	3.4 – Input and Output 3.4.3 – External Device Interfaces (Video)
2.1.4.4.3	HDMI (High Definition Multimedia Interface)	3.4 – Input and Output 3.4.3 – External Device Interfaces (Video)
2.1.4.4.4	DVI (Digital Visual Interface)	3.4 – Input and Output 3.4.3 – External Device Interfaces (Video)
2.1.4.4.5	DisplayPort	3.4.3 – External Device Interfaces (Video)
<b>2.2</b>	<b>Given a scenario, set up and install common peripheral devices to a laptop/PC</b>	
<b>2.2.1</b>	<b>Devices and printers</b>	
2.2.1.1	Windows	4.6.1 – Windows Printing Features (Video) 4.6.2 – Windows Printing Facts
<b>2.2.1.2</b>	<b>Printer</b>	
2.2.1.2.1	Types	3.4.7 – Printers (Video) 3.4.8 – Printer Facts
2.2.1.2.2	Install and configure	4.6.1 – Windows Printing Features (Video) 4.6.2 – Windows Printing Facts
2.2.1.3	Scanner	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.2.1.4	Keyboard	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.2.1.5	Mouse	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.2.1.6	Digital Camera	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts





#	CompTIA Domain/Objective	TestOut Course References
<b>2.2.1.7 Display devices</b>		
2.2.1.7.1	Types	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts 3.4.3 – External Device Interfaces (Video) 3.4.4 – Installing External Devices (Video) 3.4.5 – External Device Facts 3.4.6 - Touchscreens
2.2.1.7.2	Display Settings	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts 3.4.3 – External Device Interfaces (Video) 3.4.4 – Installing External Devices (Video) 3.4.5 – External Device Facts 3.4.6 - Touchscreens
<b>2.2.2 Installation types</b>		
2.2.2.1	Plug-and-play vs. driver installation	4.3.1 – System Software (Video) 4.3.2 – System Software Facts
2.2.2.2	Other required steps	4.6.1 – Windows Printing Features (Video) 4.6.2 – Windows Printing Facts
2.2.2.3	IP-based peripherals	3.4.3 – External Device Interfaces (Video) 3.4.4 – Installing External Devices (Video) 3.4.5 – External Device Facts
<b>2.2.2.5 Multimedia ports and devices</b>		
2.2.2.5.1	Audio card	3.3.7 – Motherboards and Expansion Cards
2.2.2.5.2	Speaker and microphone jacks	3.3.7 – Motherboards and Expansion Cards
2.2.2.5.3	Speaker configurations	3.3.7 – Motherboards and Expansion Cards
2.2.2.5.4	Audio settings	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.2.2.5.5	Changing the volume	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
2.2.2.5.6	Webcams	3.4.1 – Input/Output Hardware (Video) 3.4.2 – Input/Output Hardware Facts
<b>2.3 Explain the purpose of common internal computing components</b>		
2.3.1	Motherboard/system board	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Component Facts
2.3.2	Firmware/BIOS/UEFI system	4.3.1 – System Software (Video) 4.3.2 – System Software Facts 4.3.6 – BIOS Settings
2.3.3	Memory (system RAM)	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Component Facts





#	CompTIA Domain/Objective	TestOut Course References
2.3.4	CPU (Processors)	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Component Facts
2.3.4.6	Clock speed and bus speed	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Component Facts 3.3.7 – Motherboards and Expansion Cards
2.3.4.7	Multiprocessing and dual-core	3.3.5 – CPU Types (Video) 3.3.6 – CPU Facts
2.3.5	Storage (fixed disk)	3.5.1 – Storage Types (Video) 3.5.2 – Storage Facts
2.3.6	System and expansion bus technologies	3.3.7 – Motherboards and Expansion Cards
2.3.7	GPU	3.3.7 – Motherboards and Expansion Cards
2.3.8	System cooling	3.3.8 – Power and Cooling Options
2.3.8.1	Heatsinks and thermal paste	3.3.8 – Power and Cooling Options
2.3.9	NIC (Network Interface)	3.3.7 – Motherboards and Expansion Cards
<b>2.4</b>	<b>Compare and contrast common Internet service types</b>	
2.4.1	Fiber optic	6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
2.4.2	Cable	6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
2.4.3	DSL	6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
<b>2.4.4</b>	<b>Wireless</b>	
2.4.4.1	Radio frequency	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Devices and Interface Facts 6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
2.4.4.2	Satellite	6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
2.4.4.3	Cellular radio	6.4.1 – Internet Service Types (Video) 6.4.2 – Internet Service Facts
2.4.5	Verify wired connection	6.2.2 – Basic Networking Facts
<b>2.5</b>	<b>Compare and contrast storage types</b>	
2.5.1	Volatile vs non-volatile	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts
<b>2.5.2</b>	<b>Local storage types</b>	
2.5.2.1	RAM	3.3.1 – Internal Computing Components (Video) 3.3.2 – Internal Computing Facts
2.5.2.2	Hard disk drive (HDD)	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts





#	CompTIA Domain/Objective	TestOut Course References
2.5.2.2.6	External hard drive	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts
2.5.2.2.7	Solid state drive (SSD) vs spinning disk	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts
2.5.2.3	Optical discs and drives	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts
2.5.2.4	Flash drive (removable flash memory)	3.5.1 – Storage Types (Video) 3.5.2 – Storage facts
<b>2.5.3</b>	<b>Local network storage types</b>	
2.5.3.1	NAS (Network Attached Storage)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
2.5.3.2	File server (DAS – Direct Attached Storage)	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
2.5.3.3	Printer sharing	4.6.1 – Windows Printing Features (Video) 4.6.2 – Windows Printing Facts
2.5.3.4	Windows file sharing	3.5.7 – File System Features (Video) 3.5.8 – File System Facts 5.4.5 – Windows Cloud Storage (Video) 5.4.6 – Windows Cloud Storage Facts
2.5.4	Hosted sharing and storage	5.2.2 – The Web and Other Internet Technologies (Video) 5.2.3 – Web and Internet Facts 5.4 – Cloud Computing 5.4.1 – Cloud Computing (Video) 5.4.2 – Cloud Computing Facts 5.4.5 – Windows Cloud Storage (Video) 5.4.6 – Windows Cloud Storage Facts
<b>2.6</b>	<b>Compare and contrast common computing devices and their purpose</b>	
2.6.1	Mobile phones	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.2	Tablets	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.3	Mobile devices	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.4	Laptops	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.5	Workstations (Desktop PC)	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.6	Servers	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts







#	CompTIA Domain/Objective	TestOut Course References
2.6.7	Gaming consoles	3.2.1 – Computing Devices (Video) 3.2.2 – Computing Device Facts
2.6.8	IoT (Internet of Things)	5.2.2 – The Web and Other Internet Technologies (Video) 5.2.3 – Web and Internet Facts 5.7.1 – The Internet of Things (Video) 5.7.2 – Internet of Things Facts
<b>2.7</b>	<b>Explain basic networking concepts</b>	
<b>2.7.1</b>	<b>Basics of network communications</b>	
2.7.1.1	Network media	6.2.1 – Introduction to Networking (Video) 6.2.2 – Basic Networking Facts 6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts
2.7.1.2	Basics of packet transmission	6.5.1 – Internet Protocols (Video) 6.5.3 – Internet Protocol Facts
2.7.1.3	TCP/IP protocol suite layers	6.5.1 – Internet Protocols (Video) 6.5.3 – Internet Protocol Facts
2.7.1.4	DNS	6.5.1 – Internet Protocols (Video) 6.5.3 – Internet Protocol Facts
2.7.1.5	LAN vs WAN	6.2.1 – Introduction to Networking (Video) 6.2.2 – Basic Networking Facts
2.7.1.6	Network media	6.2.1 – Introduction to Networking (Video) 6.2.2 – Basic Networking Facts 6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts
<b>2.7.2</b>	<b>Device addresses</b>	
2.7.2.1	IP address	6.2.5 – Device Addresses (Video) 6.2.6 – Device Address Facts
2.7.2.2	MAC address	6.2.5 – Device Addresses (Video) 6.2.6 – Device Address Facts
2.7.3	Basic protocols (HTTP/S, POP3, IMAP, SMTP)	6.5.1 – Internet Protocols (Video) 6.5.3 – Internet Protocol Facts
<b>2.7.4</b>	<b>Devices</b>	
2.7.4.1	Internet service types	6.2 – Networking Basics 6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
2.7.4.2	Router	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
2.7.4.3	Switch	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts





#	CompTIA Domain/Objective	TestOut Course References
2.7.4.4	Access point	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
2.7.4.5	Firewall	6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts
<b>2.8</b>	<b>Given a scenario, install, configure, and secure a basic wireless network</b>	
2.8.1	802.11a/b/g/n/ac	6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts
2.8.2	Set up a wireless network	6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts 6.3.14 – Create a Home Wireless Network (Video) 6.3.15 – Create a Home Wireless Network (Simulation)
2.8.3	Configure a wireless client (Windows)	6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts 6.3.14 – Create a Home Wireless Network (Video) 6.3.15 – Create a Home Wireless Network (Simulation)
2.8.4	Connect to an enterprise network	6.2.3 – Network Types 6.2.7 – Networking Devices and Interfaces (Video) 6.2.8 – Networking Device and Interface Facts 6.3.5 – Wireless Standards (Video) 6.3.6 – Wireless Standard Facts
<b>3.0 – Applications and Software</b>		
<b>3.1</b>	<b>Explain the purpose of operating systems</b>	
3.1.1	Interface between user and computer	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts 4.2.4 – Windows Settings (Video) 4.2.5 – Windows Settings Facts 5.2.1 – Using Web Browsers (Video) 5.2.2 – URLs (Video) 5.3.3 – Web Browser Navigation Facts
3.1.2	Interface between applications and hardware	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
3.1.3	System health and functionality	4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts 4.3.1 – System Software (Video) 4.3.2 – System Software Facts
3.1.4	Disk/data management	3.5.1 – Storage Types (Video) 3.5.2 – Storage Facts





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3.1.5	Management interfaces	4.2.4 – Windows Settings (Video) 4.2.5 – Windows Settings Facts 4.2.6 – The Windows Registry 4.4.12 – Using the Windows Command Line (Video)
3.1.6	Process management /scheduling	4.3.1 – System Software (Video) 4.3.2 – System Software Facts 4.7.2 – Using Task Manager
3.1.7	Application management	6.6.7 – Software Installation Best Practices (Video) 6.6.8 – Software Installation Facts
3.1.8	Memory management	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
3.1.9	Device management	4.2 – Operating Systems
3.1.10	Access control/protection	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
3.1.11	Types of OS	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
<b>3.2</b>	<b>Compare and contrast components of an operating system</b>	
3.2.1	Hard disk partitions	3.5 – Storage 3.5.9 – Drives and Partitions
3.2.2	Windows drives	3.5 – Storage 3.5.9 – Drives and Partitions
<b>3.2.3</b>	<b>File systems and features</b>	
3.2.3.1	File systems	3.5.7 – File System Features (Video) 3.5.8 – File System Facts
3.2.3.2	Features	2.4.3 – File Compression (Video) 2.4.4 – File Compression Facts 3.5.7 – File System Features (Video) 3.5.8 – File System Facts
<b>3.2.4</b>	<b>File management</b>	
3.2.4.1	Folders/directories	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.2	File types and extensions	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.3	Creating and opening files	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.4	Renaming files and folders	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts





#	CompTIA Domain/Objective	TestOut Course References
3.2.4.5	Copying and moving files	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.6	Deleting and the recycle bin	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.7	Selecting multiple files and folders	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.8	Permissions and attributes	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.9	Search for folders and files	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.4.10	File properties dialog	4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.5	File explorer	3.5.7 – File System Features (Video) 3.5.8 – File System Facts 4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts 4.4.1 – Windows File Management (Video) 4.4.2 – Windows File Management Facts
3.2.6	Services	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts 4.7.2 – Using Task Manager
3.2.7	Processes	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts 4.7.2 – Using Task Manager
3.2.8	Drivers	3.4.4 – Installing External Devices (Video) 4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
3.2.9	Utilities	4.3.1 – System Software (Video) 4.3.2 – System Software Facts
3.2.10	Interfaces	4.2.1 – Introduction to Operating Systems (Video) 4.2.2 – OS Interfaces (Video) 4.2.3 – Operating System Facts
<b>3.3</b>	<b>Explain the purpose and proper use of software</b>	
3.3.1	Productivity software	4.5.1 – Productivity Software (Video) 4.5.2 – Productivity Software Facts





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3.3.2	Collaboration software	4.5.3 – Collaboration Software (Video) 4.5.4 – Collaboration Software Facts
3.3.3	Business software	4.5.5 – Business Software (Video) 4.5.6 – Business Software Facts
<b>3.4</b>	<b>Explain methods of application architecture and delivery methods</b>	
3.4.1	Application delivery methods	6.6.1 – Application Delivery Methods (Video) 6.6.2 – Application Delivery Facts
3.4.2	Application architecture models	6.6.3 – Application Architecture Models (Video) 6.6.4 – Application Architecture Facts
<b>3.5</b>	<b>Given a scenario, configure and use web browsers</b>	
3.5.1	Caching/clearing cache	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.2	Disable AutoFill	5.2.1 – Using Web Browsers (Video) 5.2.2 – URLs (Video) 5.3.3 – Website Navigation Facts
3.5.3	Deactivate client-side scripting	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.4	Browser add-ons/extensions	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.5	Cookies and PII (Personally Identifiable Information)	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.6	Private browsing	5.2.1 – Using Web Browsers (Video) 5.2.2 – URLs (Video) 5.3.3 – Website Navigation Facts
3.5.7	Proxy settings	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.8	Certificates (digital)	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.9	Popup blockers	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.10	Script blockers	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts





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3.5.11	Compatible browser for application(s)	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
3.5.12	Active content types	5.3.4 – Configuring Web Browsers (Video) 5.3.5 – Web Browser Troubleshooting (Video) 5.3.6 – Web Browser Facts
<b>3.6</b>	<b>Compare and contrast general application concepts and uses</b>	
3.6.1	Single-platform software	6.6.5 – Platform and Licensing (Video) 6.6.6 – Platform and Licensing Facts
3.6.2	Cross-platform software	6.6.5 – Platform and Licensing (Video) 6.6.6 – Platform and Licensing Facts
3.6.3	Software licensing	6.6.5 – Platform and Licensing (Video) 6.6.6 – Platform and Licensing Facts
3.6.4	Software installation best practices	6.6.7 – Software Installation Best Practices (Video) 6.6.8 – Software Installation Facts
<b>4.0 – Software Development Concepts</b>		
<b>4.1</b>	<b>Compare and contrast programming language categories</b>	
4.1.1	Programming languages	8.2.3 – Programming Languages (Video) 8.2.4 – Programming Language Facts
4.1.2	Interpreted programming languages	8.2.3 – Programming Languages (Video) 8.2.4 – Programming Language Facts
<b>4.2</b>	<b>Given a scenario, use programming organization techniques and interpret logic</b>	
4.2.1	Programming logic	8.2.3 – Programming Languages (Video) 8.2.4 – Programming Language Facts 8.2.6 – Working with Pseudocode 8.3.3 – Programming Logic (Video) 8.3.4 – Programming Logic Facts 8.3.5 – Functions (Video)
4.2.2	Logic components	8.3.3 – Programming Logic (Video) 8.3.4 – Programming Logic Facts
<b>4.3</b>	<b>Explain the purpose and use of programming concepts</b>	
4.3.1	Identifiers	8.2.2 – Programming Terminology
4.3.2	Containers	8.2.2 – Programming Terminology
4.3.3	Operators	8.3.3 – Programming Logic (Video) 8.3.4 – Programming Logic Facts
4.3.4	Procedures and functions	8.2.2 – Programming Terminology 8.4.1 – Programming Paradigms
4.3.5	Comments	8.3.3 – Programming Logic (Video) 8.3.4 – Programming Logic Facts





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4.3.6	Object-oriented programming (OCP)	8.2.2 – Programming Terminology
<b>5.0 – Database fundamentals</b>		
<b>5.1 Explain database concepts and the purpose of a database</b>		
5.1.1	Usage of database	7.2.1 – What is a Database? (Video) 7.2.2 – Data Modeling
5.1.2	Flat file systems	7.2.2 – Data Modeling
5.1.3	Flat file vs database	7.2.2 – Data Modeling
5.1.4	Records	7.3.1 – Relational Databases (Video) 7.3.2 – Relational Database Facts
5.1.5	Storage	7.2.2 – Data Modeling
<b>5.2 Compare and contrast various database structures</b>		
5.2.1	Structured vs semi-structured vs non-structures	7.5 – Non-relational Databases 7.5.1 – Non-relational Databases (Video) 7.5.2 – Non-relational Database Facts
5.2.2	Relational databases	7.3.1 – Relational Databases (Video) 7.3.2 – Relational Database Facts
5.2.3	Non-relational database	7.5.1 – Non-relational Databases (Video) 7.5.2 – Non-relational Database Facts
<b>5.3 Summarize methods used to interface with databases</b>		
5.3.1	Relational methods	7.4.8 – SQL (Video) 7.4.9 – Basic SQL Commands
5.3.2	Database access methods	7.4.1 – Database Access Methods (Video) 7.4.2 – Database Access Facts
5.3.3	Export/import	7.4.8 – SQL (Video) 7.4.9 – Basic SQL Commands
<b>6.0 – Security</b>		
<b>6.1 Summarize confidentiality, integrity, and availability concerns</b>		
6.1.1	Confidentiality concerns	10.2.1 – Confidentiality Concerns (Video) 10.2.2 – Confidentiality Facts
6.1.2	Integrity concerns	10.2.3 – Integrity Concerns (Video) 10.2.4 – Integrity Facts
6.1.3	Availability concerns	10.2.5 – Availability Concerns (Video) 10.2.6 – Availability Facts
6.1.4	Authorization, authentication, and auditing (accounting)	10.3 - Authentication





#	CompTIA Domain/Objective	TestOut Course References
<b>6.2</b>	<b>Explain methods to secure devices and best practices</b>	
<b>6.2.1</b>	<b>Securing devices (mobile/workstation)</b>	
6.2.1.1	Antivirus/Anti-malware	10.5.5 – Securing Devices (Video) 10.5.6 – Device Security Facts
6.2.1.2	Host firewall	10.5.5 – Securing Devices (Video) 10.5.6 – Device Security Facts
6.2.1.3	Network firewall	10.5.5 – Securing Devices (Video) 10.5.6 – Device Security Facts
6.2.1.4	Changing default passwords	10.5.5 – Securing Devices (Video) 10.5.6 – Device Security Facts
6.2.1.5	Enabling passwords	10.5.5 – Securing Devices (Video) 10.5.6 – Device Security Facts
6.2.1.6	Safe browsing practices	10.2.11 – Identity Theft
6.2.1.7	Patching/updates	6.6.7 – Software Installation Best Practices (Video) 6.6.8 – Software Installation Facts 6.6.9 – Windows Update (Video) 6.6.10 – Windows Update Facts
6.2.2	Device use best practices	6.6.7 – Software Installation Best Practices (Video) 6.6.8 – Software Installation Facts 10.5.5 – Securing Devices (video) 10.5.6 – Device Security Facts
6.2.3	Spam	10.5.5 – Security Devices (Video)
<b>6.3</b>	<b>Summarize behavioral security concepts</b>	
6.3.1	Acceptable use policies	10.2.7 – Digital Privacy (Video) 10.2.8 – Digital Privacy Facts
6.3.2	Expectations of privacy when using the Internet and mobile applications	10.2.8 – Digital Privacy Facts
6.3.3	Written policies and procedures	10.2.7 – Digital Privacy (Video) 10.2.8 – Digital Privacy Facts
6.3.4	Handling of confidential information	10.6.1 – Handling Confidential Information (Video) 10.6.2 – Confidential Information Facts
<b>6.4</b>	<b>Compare and contrast authentication, authorization, accounting, and non-repudiation concepts</b>	
6.4.1	Authentication	10.3.1 – Authentication (Video) 10.3.2 – Authentication Facts
6.4.2	Authorization	10.3.3 – Authorization (Video) 10.3.4 – Authorization Facts
6.4.3	Accounting	10.3.5 – Accounting (Video) 10.3.6 – Accounting Facts







#	CompTIA Domain/Objective	TestOut Course References
6.4.4	Non-repudiation	10.3.5 – Accounting (Video) 10.3.6 – Accounting Facts
<b>6.5</b>	<b>Explain password best practices</b>	
6.5.1	Password crackers	10.2.10 – Password Attacks
6.5.2	Password best practices	10.5.1 – Password Best Practices (Video) 10.5.2 – Password Facts
<b>6.6</b>	<b>Explain common uses of encryption</b>	
6.6.1	Plain text vs cipher text	10.4.2 – Encryption Facts
6.6.2	Encryption types	10.4 – Data Encryption 10.4.1 – Encryption (Video) 10.4.2 – Encryption Facts 10.4.3 – Asym4metric Encryption (Video)
6.6.3	Data at rest	10.4.1 – Encryption (Video) 10.4.2 – Encryption Facts
6.6.4	Data in transit (data in motion)	10.4.1 – Encryption (Video) 10.4.2 – Encryption Facts
<b>6.7</b>	<b>Explain business continuity concepts</b>	
6.7.1	Fault tolerance	10.6.3 – Fault Tolerance (Video) 10.6.4 – Fault Tolerance Facts
6.7.2	Disaster recovery	10.6.18 – Disaster Recovery (Video) 10.6.19 – Disaster Recovery Facts

