

ITIS 104: INFORMATION TECHNOLOGY

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2021
Credits:	4
Total Contact Hours:	108
Lecture Hours :	54
Lab Hours:	54
Hours Arranged:	0
Outside of Class Hours:	108
Strongly Recommended:	ENGL 101.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

This course is designed in building computer hardware and software skills needed for entry-level IT positions. Topics covered include networking and computer security. This course will be of interest to computer technicians, field service and help desk support personnel, as well as, individuals interested in enhancing their technical skills and knowledge of the PC system. It will lay the foundation for the CompTIA A+ certification exams. 54 lecture hours, 54 lab hours.

Course Objectives

- identify and assemble PC components into a functioning computer based on customer criteria
- explain and interpret common hardware and operating system issues while applying troubleshooting skills
- categorize storage devices and backup media
- Explain the process to install operating systems
- Classify power supply types and characteristics
- install and configure peripherals, printers, input devices
- understand the basics of networking and security
- provide appropriate customer support
- understand the basics of virtualization, desktop imaging, and deployment.

Major Course Content

1. Computer basics
 - a. Hardware vs software
 - b. Cases: Desktop vs laptop
 - c. Mobile devices: Tablets, smartphones
 - d. I/O port types, speeds, connector identification
2. Motherboard parts and components
 - a. Intel processors
 - b. Computer "bus" architectures
 - c. cooling methods and devices
 - d. form factors
 - e. system configuration
3. Power supplies types and characteristics
 - a. ATX
 - b. AC adapters for portables
 - c. Voltage, current, and wattage
 - d. connectors
 - e. power management options in Windows
 - f. surge protector
 - g. line conditioner
 - h. UPS, sine wave vs square wave
4. Memory
 - a. memory types
 - b. SDRAM
 - c. DDR,DDR2,DDR3
 - d. speed
 - e. slots
 - f. virtual memory
5. Storage devices
 - a. FDD
 - b. HDD
 - c. Optical
 - d. Removable Media
 - e. External
6. Display devices
 - a. display types
 - b. resolution
 - c. contrast ratio
 - d. connector types
 - e. setting
7. Peripherals and input devices
 - a. mouse
 - b. keyboard
 - c. bar code reader
 - d. multimedia
 - e. biometric devices
 - f. touch screen
 - g. KVM switch
8. Printers
 - a. Configuring and interfacing
 - b. Printer types
 - c. Local vs network
 - d. Drivers
 - e. Manage print jobs
 - f. spooler
 - g. print test page
 - h. detect and resolve common printer issues
 - i. Cleaning of printer
 - j. Install maintenance kits
9. Operating systems user interfaces
 - a. Command line commands, utilities
 - b. Windows Explorer
 - c. Control Panel
 - d. Run line utilities

- e. Task bar/ systray
- f. Task Manager / Administrative tools
- 10. Install and configure the Windows OS
 - a. File systems
 - b. Directory structures
 - c. Files
 - d. Verification of compatibility and minimum requirements
 - e. Installation methods
 - f. Boot options
- 11. Operating Systems
 - a. Windows Operating System directory structures
 - b. system utilities / tools
 - c. Disk Manager
 - d. Administrative tools
 - e. Devices Manager
 - f. Task Manager
 - g. System restore
 - h. Remote Desktop Protocol
 - i. Task Scheduler
 - j. Regional settings
- 12. Windows Operational Problems
 - a. Error Messages
 - b. Boot errors
 - c. Startup errors
 - d. Event Viewer
 - e. System Performance
- 13. Networking
 - a. topologies
 - b. hardware
 - c. cables and connectors
 - d. TCP/IP settings
 - e. Email protocols
 - f. FTP settings
 - g. Proxies /Firewalls
 - h. Network command line tools
 - i. Connection types
 - j. LAN /wireless speeds
- 14. Security
 - a. Using / updating Antivirus software
 - b. Malicious software protection
 - c. Scan and removal
 - d. Shared files and folders
 - e. NTFS vs Shared
 - f. Network Security
 - g. Password management

- a. identify popular system board configurations
- b. Form Factors
- c. proper microprocessor and socket combinations
- d. Identify tools, diagnostic procedures and troubleshooting techniques
- 3. System configuration
 - a. CMOS configuration settings
 - b. BIOS security
 - c. CMOS setup utility to assign system resources to system devices
- 4. System Information
 - a. System Information utility in Windows OS
 - b. Device Manager to manage devices
 - c. System Management Tools
- 5. Computer Disassembly and Assembly
 - a. Add, remove and configure internal and external storage devices
 - b. Drive preparation of internal storage devices including format / file systems
 - c. Install display devices
- 6. Power Supplies
 - a. Voltages
 - b. Currents
 - c. Wattage
 - d. Types
 - e. Connectors
 - f. Ratings
 - g. Proper selection
- 7. Installation of Windows Operating systems
 - a. partition Hard Drive
 - b. formatting the partition Hard drive
 - c. Verification of hardware compatibility and minimum requirements
- 8. Using the Command Line Interface
 - a. Use command-line functions and utilities to manage Windows
 - b. proper syntax and switches
- 9. Differentiate between Windows Operating Systems
 - a. directory structures
 - b. use of system utilities
 - c. 32bit vs 64bit
- 10. Maintenance and Troubleshooting
 - a. six steps in the logical troubleshooting procedure
 - b. Os related symptoms
 - c. Hardware related symptoms
 - d. documentation
- 11. Memory
 - a. types
 - b. sockets, pin count
 - c. speeds
 - d. install, upgrading
- 12. Drives
 - a. FDD
 - b. HDD
 - i. PATA
 - ii. SATA
 - c. Removeable

Lab Content

- 1. Introduction to computers
 - a. Keyboard and Mouse
 - b. Input /Output ports
 - c. computer terminology
- 2. Motherboard

- d. Optical
 - e. Internal, external, network
13. Video
- a. types
 - b. video ports
 - c. resolution, contrast ratio
14. Printers
- a. installing
 - b. drivers
 - c. common problems
15. Networking
- a. IP addressing
 - b. common ports
 - c. common protocols
 - d. LAN/WAN
 - e. Network Hardware
 - f. Wireless
16. Security
- a. firewall
 - b. antivirus
 - c. passwords
 - d. share permissions

Examples of Required Writing Assignments

Using the information taken from the online assignment describing the three types of DDRAM memory chips available for computers today, write an essay comparing and contrasting the types of DDRAM used. In addition, explain what criteria would be used in selecting computers with a specific type of chip for a local area network comprised of thirty computers and three laser printers.

Examples of Outside Assignments

Using the Internet, find and list the parameters of the computer DDRAM1, DDRAM2, and DDRAM3.

Instruction Type(s)

Lecture, Lab, Online Education Lecture, Online Education Lab