Course Prefix and Number: CTEC 112   **Credit Hours:** 3-3-0

Course Title: IT Hardware Support

Course Prerequisites: None

Textbook(s): LabSim for PC Pro – ISBN: 978-1-935080-42-8

Course Description: This course covers fundamentals of Computer Technology, installation and configuration of PCs, laptops and related hardware and networking basics. Skills will be covered in installation, configuration, and troubleshooting of computer hardware, printers, and mobile devices. This class, along with CTEC 114 – IT Software Support, will help students gain the skills required for the nationally recognized CompTIA A+ certification exam.

Learning Outcomes:
At the end of this course, the student will:
- A. identify basic computer assembly steps, maintenance, and functions;
- B. recognize fundamental computer networking concepts;
- C. describe features of various portable and mobile devices; and
- D. use troubleshooting theory to apply basic hardware, and network troubleshooting skills.

To achieve the learning outcomes the student will or will be able to:
(The letter designations at the end of each statement refer to the learning outcome(s).)
1. configure settings and use BIOS/UEFI tools on a PC (A);
2. explain the importance of motherboard components, their purpose and properties; (A)
3. compare and contrast various RAM types and their features; (A)
4. install and configure PC expansion cards; (A)
5. install and configure storage devices and use appropriate media; (A)
6. install various types of CPUs and apply the appropriate cooling methods; (A)
7. compare and contrast various PC connection interfaces, their characteristics and purpose; (A)
8. install a power supply based on given specifications; (A)
9. select the appropriate components for a custom PC configuration to meet customer specifications or needs; (A)
10. compare and contrast types of display devices and their features; (A)
11. identify common PC connector types and associated cables; (A)
12. install and configure common peripheral devices; (A)
13. install Small Office/Home Office (SOHO) multifunction device/printers and configure appropriate settings; (A)
14. compare and contrast differences between the various print technologies and the associated imaging process; (A)
15. given a scenario, perform appropriate printer maintenance; (A)
16. identify the various types of network cables and connectors; (B)
17. compare and contrast the characteristics of connectors and cabling; (B)
18. explain the properties and characteristics of TCP/IP; (B)

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19. explain common TCP and UDP ports, protocols and their purpose; (B)
20. compare and contrast various WiFi networking standards and encryption types; (B)
21. install and configure SOHO wireless/wired router and apply appropriate settings; (B)
22. compare and contrast Internet connection types, network types and their features; (B)
23. compare and contrast network architecture devices, their functions and features; (B)
24. use appropriate networking tools; (B)
25. install and configure laptop hardware and components; (C)
26. explain the function of components within the display of a laptop; (C)
27. use appropriate laptop features; (C)
28. explain the features of various types of other mobile devices; (C)
29. compare and contrast accessories and ports of other mobile devices; (C)
30. given a scenario, troubleshoot common problems related to motherboards, RAM, CPU and power with appropriate tools; (D)
31. given a scenario, troubleshoot hard drives and RAID arrays with appropriate tools; (D)
32. given a scenario, troubleshoot common video, projector and display issues; (D)
33. given a scenario, troubleshoot wired and wireless networks with appropriate tools; (D)
34. given a scenario, troubleshoot and repair common mobile device issues while adhering to the appropriate procedures; (D) and
35. given a scenario, troubleshoot printers with appropriate tools. (D)

Course Requirements:
- To pass the course, student must achieve a course average of 70% or above.
- Students must have access to a computer (not mobile device), Microsoft Office, and the Internet to complete the assignments. Computer, software, and the Internet are available to students on campus during scheduled computer lab times and in the Learning Commons located in the BPCC Library.
- Students are required to use BPCC's LMS and are encouraged to use the BPCC Library to research topics and employment opportunities.

Course Grading Scale:
- A = 90 - 100
- B = 80 - 89
- C = 70 - 79
- D = 60 - 69
- F = 0 – 59

Attendance Policy:
Each student is expected to attend class regularly; excessive unexcused absences constitute grounds for suspension. Refer to the student handbook for Attendance Policy.

Course Fees: This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams and/or clinical fees.

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activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

Coordinator for SECTION 504 AND ADA
Angie Cao, Student and Disability Services Specialist
Disability Services, F-254
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6511
Email: acao@bpcc.edu
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator
Teri Bashara, Director of Human Resources
Human Resources Office, A-105
6220 East Texas Street
Bossier City, LA 71111
Phone: 318-678-6056
Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.