



Hardware / Software Support

2023-2024 Catalog

[ARCHIVED CATALOG]

ITSP 135 - Hardware / Software Support

PREREQUISITES/COREQUISITE: [INFM 109 - Informatics Fundamentals](#) or [CSCI 101 - Computer Science I](#) or [SDEV 120 - Computing Logic](#)

PROGRAM: Information Technology Support

CREDIT HOURS MIN: 4

LECTURE HOURS MIN: 2

LAB HOURS MIN: 4

DATE OF LAST REVISION: Fall, 2016

Delivers the necessary competencies with hands-on experience in the lab for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment.

MAJOR COURSE LEARNING OBJECTIVES: Upon successful completion of this course the student will be expected to:

1. Differentiate between motherboard components and various CPU types, and how these components might be evaluated while troubleshooting, in both desktop and mobile devices.
2. Identify various connection interfaces, connector types, associated cables, and explain the purpose of each.
3. Compare, properly install, and configure various peripheral devices, expansion cards, storage devices, and memory.
4. Configure and apply BIOS settings.
5. Explain properties and characteristics of TCP/IP while identifying common TCP and UDP ports, protocols and their individual purposes.
6. Compare and contrast networking standards, security, and encryption types while using appropriate networking tools to install and configure various devices on a SOHO network.
7. Compare and contrast various types of networks, network devices, their functions, and features and how one might use appropriate networking tools.
8. Identify, install and configure the various mobile device's hardware and components, and the features of the Operating Systems in regards to smart-phones, tablets and laptops, mobile device network connectivity and configure email including the execution and the configuration of mobile device synchronization.
9. Install SOHO multifunctional devices and/or printers and configure appropriate settings.
10. Explain the purpose of environmental controls and use of appropriate safety procedures.
11. Demonstrate proper communication and professionalism, including how one might deal with prohibited content/activity.
12. Select, install, and configure appropriate Operating Systems and equipment based on the user's needs and system.
13. Demonstrate the use of Control Panel utilities and appropriate operating system features and tools, both command line and GUI.
14. Perform preventive maintenance procedures using appropriate tools for computers, mobile devices, and peripheral equipment.
15. Within a scenario, setup and use client-side virtualization.
16. Compare and contrast common security threats and demonstrate how to implement security best practices to secure workstations, laptops, mobile devices and wired or wireless networks.

17. Using appropriate troubleshooting theory, demonstrate how a technician would troubleshoot problems related to communication devices, desktop and mobile devices.



COURSE CONTENT: Topical areas of study include -

- System assembly
- Device installation and maintenance
- Operating systems
- Needs assessment
- Networking basics
- Security essentials
- Forensics fundamentals
- System documentation
- Troubleshooting theory
- Issue resolution
- Desktop imaging
- Virtualization
- Mobile OSs
- Professional communication
- TCP/IP
- BIOS
- SOHO
- Mobile computing

CERTIFICATION ASSOCIATED COURSE:

This course has been identified as appropriate preparation for a nationally recognized, vendor certification that closely reflects the objectives of the course. In addition to a textbook, certification preparation materials have also been incorporated into the course for purchase at the bookstore to acclimate students to the manner and rigor of the actual certification exam. Preparation materials will consist of TestOut's LabSim and/or some kind of practice test software such as ExamForce, Transcender or other equally appropriate software and will make up no less than 20% of the final grade.

CERTIFICATION/LICENSURE DISCLAIMER:

Ivy Tech cannot guarantee that any student will pass a certification or licensing exam. Your success will be determined by several factors beyond the instruction you are given in the classroom including your test-taking skills, your willingness to study outside of class, and your satisfactory completion of appropriate practice exams. Certification exam questions are drawn from databases of tens of thousands of possible questions and no two people are asked exactly the same progression of questions. Therefore, a thorough understanding of the subject matter is required. The goal of Ivy Tech in providing a certification exam studies class is to assist you in understanding the material sufficiently to provide a firm foundation for your studies as you prepare for the exam.

[Course Addendum - Syllabus \(Click to expand\)](#)