**CIS 50 IT Essentials**                                           **4.0 Units**

## I.        Catalog Description

This course provides an introduction to the computer hardware and software skills needed for entry level IT jobs. The fundamentals of computer hardware and software will be introduced, as well as more advanced topics, such as, security, networking and the responsibilities of the IT professional. Prepares students for the CompTIA A+ certification exams. This course has been approved for online delivery.

**Prerequisite(s):** None

Does Not Transfer to UC/CSU
C-ID IT IS 110
51 Hours Lecture, 102 Expected Outside Class Hours, 153 Total Student Learning Hours
Scheduled: Fall

## II.       Coding Information

Repeatability: Not Repeatable, Take 1 Time
Grading Option: Graded
Credit Type:  Credit
TOP Code: 0708.20

## III.      Course Objectives

### A. Course Student Learning Outcomes

Upon completion of this course, the student will be able to:
1.  Identify, use and connect hardware components and devices
2.  Apply knowledge to install and configure laptops and other mobile devices 3. Demonstrate how to troubleshoot advanced hardware and software problems.

### B. Course Objectives

Upon completion of this course, the student will be able to:
1.  Select the appropriate computer components to build, repair, or upgrade personal computers.
2.  Explain how to perform preventive maintenance and troubleshooting on personal computers.
3.  Explain the operation of networks.
4.  Perform basic networking configuration to devices to connect to LANs, the Internet, and Cloud services.
5.  Describe how to configure, repair, upgrade, maintain and troubleshoot laptops and mobile devices.
6.  Implement basic host, data, and network security.

7. Troubleshoot PC and mobile device issues, including application security support.

## IV. Course Content

1. Introduction to Personal Computer Hardware
2. PC Assembly
3. Advanced Computer Hardware
4. Networking Concepts
5. Applied Networking
6. Printers
7. Virtualization and Cloud Computing
8. Windows Installation 9. Windows Configuration 10. CyberSecurity.
11. The IT Professional

## V. Assignments

**A. Reading Assignments**

Read the procedure for installing an operating system on a new hard drive. Create a checklist form of the requirements for that installation. Include all of the configuration information. Be prepared to demonstrate the procedure and required steps in class on your lab computer.

Read the knowledge base (KB) article on upgrading to windows 10. Be prepared to explain the ramifications of that upgrade.

**B. Writing Assignments**

Given a hypothetical office scenario, create a business proposal to purchase, implement and install the office infrastructure best suited to the business. It should include: a cover letter, detailed equipment list, custom built PCs, software, monitors, network hardware infrastructure, and topology (map), security, backup plan and a detailed invoice.

Complete a report on the wireless access points (WAP) lab. In the report, be sure to address security issues associated with WAPs, including the types of encryption available.

**C. Quizzes**

1. Weekly online quizzes

**D. Virtual labs**

1. Packet Tracer activities to simulate detecting, troubleshooting and fixing network connectivity problem

## VI. Methods of Evaluation

**Traditional Classroom Evaluation**
A. Exams/Tests
B. Quizzes

C. Lab Projects
D. Essays and research papers

**Online Evaluation** A.
   Exams/Tests
B. Quizzes
C. Virtual Lab Projects
D. Essays and research papers E.
   Online Forum participation

# VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

X Traditional Classroom Delivery ☐ Correspondence Delivery

☐ Hybrid Delivery                    X Online Delivery

**Traditional Classroom Delivery**
Lecture, discussion, group work, problem analysis, and interactive exercises.

**Online Delivery**
Participation in forum based discussions. Online exercises/assignments contained on website. Web based video vignettes with discussion paper, email communications, postings to forums, online lecture notes and web links will compromise the method of instruction.

# VIII. Representative Texts and Supplies

**Cisco Network Academy IT Essentials v8.0** Netcad learning management system. (www.netacad.com) *Students will be provided with individual account access to the Cisco Netcad LMS. The complete curriculum for this course is available online for student use 24x7 through internet access and supports a range of computers for access*

# IX. Discipline/s Assignment

Computer Information Systems

# X. Course Status

Current Status:
Original Approval Date: 11/16/2021
Board Approval Date: 12/14/2021 Revised
By: Melinda Duerksen
Curriculum/Academic Standards Committee Revision Date: 03/21/2023