<center>**STANDARDIZED COURSE OUTLINE**</center>

<u>**SECTION I**</u>

SUBJECT AREA AND COURSE NUMBER: CST 140
COURSE TITLE: A+ Introduction To Computer Hardware

COURSE CATALOG DESCRIPTION:
This course is designed to prepare students for taking the industry-standard A+ Certification tests 220-101 Core/Hardware, and 220-102 DOS/Windows. A+ Certification is a CompTIA-sponsored testing program that certifies the competency of entry-level computer service technicians. The Computing Technology Industry Association (CompTIA) is a globally recognized organization for developing vendor-neutral standards in e-commerce, customer service, workforce development, and training certification. Formerly listed as CIS 299, not open to students who have successfully completed CIS 299. Corequisite: CST 142 A+ Introduction to Computer Hardware Lab.

LECTURE HOURS PER WEEK: 3   **CREDIT HOURS:** 3
LAB HOURS PER WEEK (if applicable): 3
PREREQUISITE(S): n/a

<u>**SECTION II**</u>

A. SCOPE:
> This course focuses on general computer troubleshooting and repair skills using various operating systems The course topics include: basic hardware components, motherboards, form factors, hard drives, floppy drives, CD drives, memory, and more– skills related to troubleshooting computers such as testing power supplies and any of the hardware components mentioned above for failure. The course also covers a wide variety of the latest up to date software, which can be used for virus protection and troubleshooting.

B. REQUIRED WORK:
> Chapter reading, which will be evaluated in 4 exams throughout the semester, as well as lab projects for each chapter. There is also a semester long project where the students compare prices on computer components and decide which parts to purchase for a new computer system.

C. ATTENDANCE AND PARTICIPATION:
> Regular attendance, assignment submission timeliness, promptness and class/lab participation will be expected. The instructor will include specific attendance and participation policies requirements in their class syllabi.

D. METHODS OF INSTRUCTION:
> Methods may include any of the following: lecture, lecture/discussion, small group, collaborative learning, experimental/exploration, distance learning, student presentations, computer demonstrations, or use of technologies such as audio-visual materials, computer

laboratory equipment, and SAM exam software. Emphasis will be on hands-on computer exercises and problems.

E. OBJECTIVES, OUTCOMES, and ASSESSMENT

Students' grades will be based on achievement of learning the objectives and outcomes listed below as measured by the instructor's methods of assessment:

LEARNING OBJECTIVES	LEARNING OUTCOMES	ASSESSMENT METHODS
To demonstrate an understanding of:	**Student will:**	**As measured by:**
Installing and Configuring Software and hardware on a computer equipped with modern or legacy microcomputer operating systems	a) Install and configure numerous modern software packages b) Install numerous modern hardware devices c) Work with older hardware devices and operating systems	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams
Installing and Uninstalling Operating Systems	a) Install and uninstall several modern operating systems during the course of the labs b) Troubleshoot OS installations	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams
Configuring software for accessibility by disabled individuals	a) Configure various versions of Windows for accessibility by disabled individuals b) Experiment with various add-ons and options available in Windows	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams
Installing and configuring applications software upgrades	a) Install and configure many modern applications running under a variety of different operating systems	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams
Modifying an operating system when installing, configuring and upgrading typical applications software	a) Explore various options and add-ons when installing various versions of Windows b) Explore various options and add-ons when installing various software programs	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams;
Selecting appropriate hardware and software, troubleshooting on the board level, and understanding software licensing agreements and privacy issues	a) Explore a variety of diagnostic tools used to troubleshoot a computer system b) Use a multimeter to troubleshoot a power supply	• Homework/Lab assignments; • Written and Oral activities; • Quizzes and Exams;

F. TEXT(S) AND MATERIALS:

An appropriate A+ Certification text, such as:

Text: *A+ Guide to Managing and Maintaining Your PC (current edition)*
Author: Jean Andrews
Publisher: Course Technology

Lab Manual: Lab Manual that accompanies book mentioned above

G. INFORMATION TECHNOLOGY:

This course is an information technology course and will require extensive computer lab time both for teaching and performing assignments. Students will require network accounts with access to the Internet and current versions of Microsoft Windows, Word, Excel, and PowerPoint as well as file storage space.