

**THREE RIVERS COMMUNITY COLLEGE  
COURSE OUTLINE**

---

Course Number/Title: CST K141

Computer Hardware

Prof. George Volkov  
Phone: 860-885-2384

Fall 2010  
E-mail: gvolkov@trcc.commnet.edu

Lecture: 3 hrs

Laboratory: 2 hrs

Credits: 4 hrs

Contact: 5 hrs

**Course Description:** This course will provide the principles of maintaining and troubleshooting the personal computer's hardware. The course will cover computer hardware, associated peripherals, configuration, optimization, and repair from the PC technician's point of view. Students will develop critical thinking and troubleshooting skills through emphasis on hands-on experience in installing, maintaining, and processing various problems with computer hardware. This course will begin preparing the student for the CompTIA Core Hardware Examinations for the A+ certification.

**Method:** Lecture and Lab using the PCs.

**Text:** A+ Guide to Managing and Maintaining Your PC, 7<sup>th</sup> Edition, by Jean Andrews, ISBN 978-1-4354-9778-8

**Prerequisite:** CSA K105 or equivalent, or permission of instructor.

---

**COURSE TOPICS/CONTENT**

**Week One – Chapter 1:**

Course introduction and policies  
Introducing PC Hardware

**Week Two – Chapter 2:**

How Hardware and Software Work Together – Operating Systems  
The Binary Number System and Memory Addressing

**Week Three – Chapter 3:**

PC Repair Fundamentals – Working with People in a Technical World  
Understanding the Boot Process and Command Line

**Week Four – Chapter 4:**

Electricity and Multimeters  
Form Factors and Power Supplies

Week Five – Chapter 5:  
The Motherboard  
Installation setup and testing

Week Six – Chapter 6:  
Processors and Chipsets  
Legacy and Modern Processors  
Midterm Review

Week Seven:  
Midterm Exam

Week Eight – Chapter 7:  
Memory Technologies  
Managing and Upgrading Memory

Week Nine:  
Floppy Disk Drives  
Legacy systems

Week Ten – Chapter 8:  
Hard Drives  
Understanding and Installing Hard Drives  
FAT Details

Week Eleven – Chapter 9:  
Installing and Supporting I/O Devices  
System Reports

Week Twelve – Chapter 10:  
Multimedia Devices and Mass Storage  
New Technologies

Week Thirteen  
The professional PC Technician – Security Issues  
S/W Copyright Issues

Week Fourteen:  
Extra Material  
Course Review

Week Fifteen:  
Final Exam