



# PC HARDWARE CONCEPTS

Course Syllabus

Date 11/28/11

<b>C</b>	<b>-</b>	<b>L</b>	<b>-</b>	<b>CR</b>
<b>3</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>3.0</b>

**COURSE NUMBER:** CPT 285

**PREREQUISITE(S):** CPT 114 with a minimum grade of "C"

**CO-REQUISITE(S):** None

**COURSE DESCRIPTIONS** This course focuses on installing and upgrading microcomputer hardware and identifying malfunctions.

**TEXTBOOK(S):** Andrews, Jean. A+ Guide to Hardware: Managing, Maintaining, and Troubleshooting, 5th Edition. MA: Course Technology 2010. ISBN: **978-1-4354-8738-3**

LabConnection Access Card bundled with the textbook if purchased in the SCC Book Inn. To purchase the code separately, call (866) 994-2427 or visit [www.ichapters.com](http://www.ichapters.com) and search for A+ Guide to Hardware Lab Connections.

**REFERENCE(S):** None

**OTHER REQUIRED MATERIALS, TOOLS, AND EQUIPMENT:** Three-ring binder notebook or folder

**METHOD OF INSTRUCTION:** Lecture and lab exercises

**GRADING SYSTEM:**

90	-	100	=	A
80	-	89	=	B
70	-	79	=	C
60	-	69	=	D
Below	-	60	=	F

The standard mathematical procedure of rounding will be applied to arrive at a whole number percentage in final grade calculation.

**GRADE CALCULATION METHOD:**

Tests (including the Final Exam)	=	40%
Quizzes	=	15%
Participation	=	5%
Research (parts, websites, technologies)	=	15%
Project	=	20%
LabConnections	=	5%
	=	<u>100%</u>

## **ATTENDANCE POLICY:**

The student is responsible for punctual and regular attendance in all classes, laboratories, clinical, practica, internships, field trips, and other required class activities. The College does not grant excused absences; therefore, students are urged to reserve their absences for emergencies. When illness or other emergencies occur, the student is responsible for notifying instructors and completing missed work if approved for late submission by instructors.

The student is tardy if not in class at the time the class is scheduled to begin and is admitted to class at the discretion of the instructor.

Instructors maintain attendance records. However, it is the student's responsibility to withdraw from a course. A student enrolling in and attending at least one course session remains enrolled until the student initiates a withdrawal.

Withdrawal Policy: During the first 75% of the course, a student may initiate withdrawal and receive a grade of W. A student cannot initiate a withdrawal during the last 25% of the course. Extenuating circumstances require documentation and approval by the appropriate department head and academic dean.

Absences for Religious Holidays: Students who are absent from class in order to observe religious holidays are responsible for the content of any activities missed and for the completion of assignments occurring during the period of absence. Students who anticipate their observance of religious holidays will cause them to be absent from class and do not wish such absences to penalize their status in class should adhere to the following guidelines:

1. Observance of religious holidays resulting in three or fewer consecutive absences: Discuss the situation with the instructor and provide written notice at least one week prior to the absence(s). Develop (in writing) and instructor-approved plan which outlines the make up of activities and assignments.
2. Observances of religious holidays resulting in four or more consecutive absences: Discuss the situation with the instructor and provide the instructor with written notice within the first 10 days of the academic term. Develop an instructor-approved plan with outlines the make up of activities and assignments.

**CLASSROOM  
CONDUCT:**

**ACADEMIC DISHONESTY:** Students are expected to uphold the integrity of the College's standard of conduct, specifically in regards to academic honesty. All forms of academic dishonesty including, but not limited to, cheating on assignments/tests, plagiarism, collusion, and falsification of information will call for disciplinary action. Disciplinary action imposed may include one or more of the following: written reprimand, loss of credit for assignment/test, termination from course, and probation, suspension, or expulsion from the College. For further explanation of this and other conduct codes, please refer to the Student Handbook.

**CELLULAR PHONES AND PAGERS/BEEPERS:** Cellular phones, pagers and beepers are not permitted to be turned on or used within the classroom. Use of these devices during classroom time will be considered a violation of the student code as it relates to "disruptive behavior."

**CLASS/LAB  
PROCEDURES:**

**No makeup tests** will be given, except in extenuating circumstances as determined by the instructor. If the student notifies the Instructor in advance, arrangements may be made to take a test early. The lowest test grade will not be dropped.

**No homework will be accepted late.** All homework is to be turned in when due as stated on the Tentative Daily Schedule. If a student is absent on the due date, it is their responsibility to notify the instructor on that day either by phone or email. If the student follows this procedure, the homework may be accepted on the following class day ONLY. *If the student fails to notify the instructor on the due date, the homework will not be accepted.*

**Quizzes:** There will be a quiz covering each of the textbook chapters except Chapter 10. The lowest two quiz grades will be dropped and the remaining quiz grades will be averaged. That quiz average will count 15% of your final grade.

**The Learning Center**, located in the rooms E-2 & E-5 of the East Building, provides computers for your use. Check the website <http://www.sccsc.edu/resources/tutoring/tlc> or call 592-4968 for current semester operating hours.

**ACCOMMODATIONS:** Students who need special accommodations in this class because of a documented disability should notify Student Disability Services by calling (864) 592-4818, toll-free 1-800-922-3679; via email through the SCC web site at [www.sccsc.edu/resources/disabilities](http://www.sccsc.edu/resources/disabilities); or by visiting the office located in the East Building Room 30-B on the SCC Central campus. Contacting Student Disability Services early in the semester gives the College an opportunity to provide necessary support services and appropriate accommodations.

### **Program Department Chair**

Marcia Schenck  
592-4839  
[schenckm@sccsc.edu](mailto:schenckm@sccsc.edu)

### **Inclement Weather Schedule:**

- Check STC Web Site: [www.sccsc.edu](http://www.sccsc.edu)
- Tune to **Channel-7** Local T.V. Station (CBS)
- Tune to an FM/AM Local radio station

**COURSE OUTCOMES & OBJECTIVES:** Upon satisfactory completion of this course, the student will be able to:

- I. Explain how computers work
  1. Explain how hardware and software work together
  2. Group hardware components by category (input, output, storage, processing)
  3. Identify, explain and configure computer components
- II. Explain how hardware and software work together
  1. Understand how an operating system manages hardware and uses system resources
  2. Describe the boot-up process of a standard PC
- III. Understand electricity and power supplies
  1. Understand the basic properties of electricity and its units of measurement
  2. Explain ESD and EMI and how to protect against each
  3. Identify, install and test power supplies
- IV. Identify motherboards and their components
- V. Identify memory modules and the technologies used to create them

- VI. Understand floppy drives
  - 1. Install, test and troubleshoot a floppy drive
  - 2. Format and test a floppy disk
  
- VII. Understand hard drives
  - 1. Identify hard drives and calculate their capacity
  - 2. Explain how hard drives are organized
  - 3. Install, partition, format, test and maintain a hard drive
  
- VIII. Understand I/O devices
  - 1. Install a computer peripheral using ports and expansion slots
  - 2. Identify and differentiate between the various types of ports and expansion slots
  - 3. Explain how keyboards, mice and monitors work
  
- IX. Understand multimedia devices and mass storage
  - 1. Understand the use of various multimedia and mass storage devices
  - 2. Explain optical storage technologies and differentiate between them
  - 3. Identify hardware used for backups and fault tolerance
  
- X. Differentiate the types of printers and explain how each operate
  - 1. Explain the workings of the major types of printers
  - 2. Understand how to identify, isolate and troubleshoot printer problems
  
- XI. Troubleshoot and repair PCs
  - 1. Diagnose PC problems by its symptoms
  - 2. Repair PC hardware problems based on a diagnosis
  - 3. Completely assemble a PC from parts
  
- XII. Work as a team
  - 1. Work as a team for the purpose of learning
  - 2. Work as a team to diagnose PC problems
  - 3. Work as a team to repair PC problems
  - 4. Communicate effectively in a group environment