CST K141 Computer Hardware

Course Syllabus - Fall 2011

Course: CST K141 – Computer Hardware

Program: Computer Science/Technology

Hours: Lecture Thursday 5:20 – 8:05 pm and Lab Thursday 8:10 – 9:50 pm
(Room B 227)

Instructor: George Volkov

	Office:	Room C 258
	Campus Office Hours:	Mondays 3:15 – 5:15 pm
		Tuesdays 3:15 – 5:15 pm
		Wednesdays 12:00 – 2:00 pm
		Thursdays 3:15 – 5:15 pm
	Phone:	(860) 885-2384
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Delivery Format: On-ground with Academic Folder materials/samples/presentations and student emails

Dates: Sep. 1 – Dec. 15 no class on Nov. 24 (Thanksgiving)

Textbook: Guide to Managing and Maintaining Your PC, 7th Edition, by Jean Andrews, ISBN # 978-1-4354-9778-8

Pre-requisites: None required. Recommended BBG* K115 or CSA* K105 or equivalent. General familiarity with PC Windows Operation Systems is expected.

Course Objectives: 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 a potential PC technician's point of view. This is considered to be an introductory course in Computer Architecture. Specifically, at the completion of the course students will be able to understand and describe these concepts, including but not limited to the following:

- Introductory hardware concepts
- Basics of Operating Systems and Number Systems
- Interacting with other technical people
- Basic Concepts of Electricity
- Computer Form Factors and Power Supplies
- Motherboard concepts
- Supporting PC processors
- Binary Arithmetic
- Basic Logic Concepts and Design
- Computer Memory concepts

- Various computer Hard Drives
- Magnetic storage media organization
- Supporting various I/O devices
- Multimedia devices and Mass storage
- General PC Maintenance and Troubleshooting Strategies

Software: This course will primarily use the Microsoft Windows 7 operating system. Other specialized S/W applications will be introduced as required.

Supplies and Materials:

Removable storage media is recommended. A USB memory device with a minimum of 4GB capacity is generally recommended.

Lab Assignments: Weekly assignments from the end of chapter problems or from additional instructor handouts will be given. The hand-in format will be via printed hardcopy. Class assignments should be submitted on or before the due date. An assignment will lose 20% of the score if it is submitted late. Assignments will be graded on professionalism, accuracy, style and completeness. The details for each assignment, including work to be done and the due date will be discussed in class. Students are encouraged to interact with the instructor or other students on these assignments via classroom discussion, but must personally perform the necessary actions to complete the assignments unless stated otherwise.

Grading and Evaluation Criteria:

45 % of the grade is based on homework and lab assignments
45 % of the grade is based on midterm and final examinations
10 % of the grade is based on attendance and class participation

College Withdrawal Policy:

Students may withdraw, through the Registrar's Office, for any reason. Last day to withdraw is Dec. 9. The withdrawal process <u>must be initiated by the student</u>. Failure to do so will result in a semester grade based on the work completed before the student stopped attending the class.

PC HW Assignments/Homework:

Week #1   Textbook   Page 31, Proj. 1-1 & 1-2

Week #2   Lab Man.   Lab 1: 1.1 & 1.2

Week #3   Lab Man.   Lab 2: 2.1, 2.2 & 2.5

Week #4   Textbook   Page 105, Proj. 3-2
             Lab Man.   Lab 3 & 4: 3.2, 4.2 & 4.3

Week #5   Lab Man.   Lab 4: 4.4 & 4.5
                           Special "EE 101" Lab

Week #6   Textbook   Page 293, Proj. 6-1, 6-2 & 6-3
                           Special "Arithmetic Operations" Lab

Week #7   Textbook   Midterm Exam Review

Week #8   Midterm Exam

Week #9   Lab Man.   Lab 5: 5.1 & 5.3
                           Special "Digital Logic" Lab

Week #10   Lab Man.   Lab 7: 7.1, 7.2 & 7.3

Week #11   Lab Man.   Lab 8: 8.1, 8.3 & 8.6

Week #12   Textbook   Page 347: Proj. 9-1 & 9-3

Week #13   Lab Man.   Lab 9: 9.1, 9.2 & 9.4

Week #14   Textbook   Page 399: Proj. 10.2 & 10.4
             Lab Man.   Lab 10: 10.2 & 10.4

Week #15   Final Exam

Note: The foregoing course outline is subject to change as conditions warrant.