Computer Engineering I/II
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Course Description:

Computer Engineering I/II is a discipline that integrates several fields of electrical engineering and computer science required to develop computer systems.[1] Computer engineers usually have training in electronic engineering (or electrical engineering), software design, and hardware-software integration instead of only software engineering or electronic engineering. Computer engineers are involved in many hardware and software aspects of computing, from the design of individual microprocessors, personal computers, and supercomputers, to circuit design. This field of engineering not only focuses on how computer systems themselves work, but also how they integrate into the larger picture

Text/Materials:

http://explornet.org/moodle/ (Primary Source of knowledge can be accessed at home.)

Flash Drive 4G. Notebook—(note taking is required…)

Teaching Methods:

1. Lectures: Important material from the text and outside sources will be covered in class. Students should plan to take careful notes as not all material can be found in the texts or readings. Discussion is encouraged as is student-procured outside material relevant to topics being covered.
2. Assignments: End of chapter activities and online activities will be assigned weekly to reinforce material in the text. These assignments may require the application of various software packages.
3. Quizzes: Occasional unannounced quizzes will be given to help ensure students stay up with assigned material.
4. Exams and Projects: The exams will be closed book/notes and will test assigned readings and material discussed in class. The final exam (Vocats) will be comprehensive in nature.
5. Participation: Student participation will be graded by the level of class participation and attendance – instructor's prerogative.

Grading:

A	**>= 93**	**30%**	**Informal Grades (Assignments, worksheets, vocabulary, Activities)**
B	**>= 85**	**70%**	**Formal Grades (Test, Quizes, Labs, Projects)**
C	**>= 77**		
D	**>= 70**		
F	**<= 69**		

Course Policies:

Missed Classes: The student is responsible for obtaining material distributed on class days when he/she was absent. This can be done through contacting a classmate who was present or by contacting the instructor during his office hours or other times. To receive 100% credit work most be turned in within 5 days after returning from absence. Missed or late quizzes can be made up—student must make arrangements to make-up missed work outside regular class periods. That means before are after regular school hours.

Assignments: All assignments are due at the end of class unless teacher says otherwise. Late submission of assignments will be assessed a penalty of 30 points. No exceptions are made.

Academic Dishonesty: Plagiarism and cheating are serious offenses and may be punished as set by the CMS policies. For this class, it is permissible to assist classmates in general discussions of computing techniques. General advice and interaction are encouraged. Each person, however, must develop his or her own solutions to the assigned projects, assignments, and tasks. In other words, students may not "work together" on graded assignments unless it is a group assignment.

Need for Assistance: If you have any condition, such as a physical or learning disability, which will make it difficult for you to carry out the work as I have outlined it, or which will require academic accommodations, please notify me as soon as possible.

Internet Support: Please email me for any questions or concerns.

Computer Engineering I Blueprint

Comp # Obj #	Unit Titles/Competency and Objective Statements (The Learner will be able to:)	*CompTIA A+*	Course Weight	RBT Designat
1	2	*3*	4	5
	Total Course Weight		**100%**	
A	**HARDWARE AND TROUBLESHOOTING**		***47%***	
101	**Understand computer system hardware**		***27%***	**B2**
101.01	*Categorize storage devices and backup media.*	***1.1***	*3%*	
101.02	*Explain motherboard components, types and features.*	***1.2***	*4%*	
101.03	*Classify power supplies types and characteristics.*	***1.3***	*2%*	
101.04	*Explain the purpose and characteristics of CPUs and their features.*	***1.4***	*2%*	
101.05	*Explain cooling methods and devices.*	***1.5***	*2%*	
101.06	*Compare and contrast memory types, characteristics and their purpose.*	***1.6***	*2%*	
101.07	*Distinguish between the different display devices and their characteristics.*	***1.7***	*2%*	
101.08	*Install and configure peripherals and input devices.*	***1.8***	*2%*	
101.09	*Summarize the function and types of adapter cards.*	***1.9***	*2%*	
101.10	*Install, configure and optimize laptop components and features.*	***1.10***	*4%*	
101.11	*Install and configure printers.*	***1.11***	*2%*	
102	**Understand troubleshooting, repairing and maintenance of computer systems.**		***20%***	**B2**
102.01	*Given a scenario, explain the troubleshooting theory.*	***2.1***	*5%*	
102.02	*Given a scenario, explain and interpret common hardware and operating system symptoms and their causes.*	***2.2***	*7%*	

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1	2	*3*	4	5
102.03	*Given a scenario, determine the troubleshooting methods and tools for printers.*	***2.3***	*2%*	
102.04	*Given a scenario, explain and interpret common laptop issues and determine the appropriate basic troubleshooting method.*	***2.4***	*3%*	
102.05	*Given a scenario, integrate common preventative maintenance techniques.*	***2.5***	*3%*	
B	**SOFTWARE AND NETWORKING**		**35%**	
103	**Understand operating systems and software for computer systems.**		***20%***	**B2**
103.01	*Compare and contrast the different Windows Operating Systems and their features.*	***3.1***	*5%*	
103.02	*Given a scenario, demonstrate proper use of user interface.*	***3.2***	*5%*	
103.03	*Explain the process and steps to install and configure the Windows OS.*	***3.3***	*5%*	
103.04	*Explain the basics of boot sequences, methods and startup utilities.*	***3.4***	*5%*	
104	**Understand networking of computer systems.**		**15%**	**B2**
104.01	*Summarize the basics of networking fundamentals, including technologies, devices and protocols.*	***4.1***	*8%*	
104.02	*Categorize network cables and connectors and their implementations.*	***4.2***	*4%*	
104.03	*Compare and contrast the different network types.*	***4.3***	*3%*	
B	**SECURITY AND COMMUNICATION**		**18%**	
105	**Understand security concepts, technologies and features of computer systems.**		**8%**	**B2**
105.01	*Explain the basic principles of security concepts and technologies.*	***5.1***	*4%*	
105.02	*Summarize the security features used on computer systems.*	***5.2***	*4%*	
106	**Understand operational procedures in computer systems repair.**		**10%**	**B2**
106.01	*Outline the purpose of appropriate safety and environmental procedures and given a scenario apply them.*	***6.1***	*5%*	
106.02	*Given a scenario, demonstrate the appropriate use of communication skills and professionalism in the workplace.*	***6.2***	*5%*	