

EET 302
PC Selection & Troubleshooting
Spring 2005

Instructor:

Prof. Vigs Chandra, PhD

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Office:

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Class schedule:

Section 001, CRN 20089; TR: 2.00 pm – 3.55 am, in Room 408

Office Hours:

MW: 8.30 am – 10 am, MTWR: 4.30 pm – 6 pm. If my office door is open at other times I will most likely be available for discussion. Come right in.

Credit hours:

3

Prerequisite:

None

COURSE DESCRIPTION:

This course covers the operation and troubleshooting of microprocessors, system memory, computer architecture, video types, hard drives, mice and printers as they relate to the running of current application programs

TEXTBOOK:

1. **A+ Certification Exam Cram 2 (220-301, 220-302)**, Que Certification;
ISBN: 078973043X
2. **Upgrading and Repairing PCs**, 16th edition; Scott Mueller; Que Publishing;
ISBN: 0-7897-3173-8

Reference:

1. **Web sources:** www.intel.com, www.amd.com, www.tomshardware.com,
www.zipzoomfly.com, <http://anandtech.com>, www.motherboards.org,
www.howthingswork.com, www.answersthatwork.com, www.webopedia.com

COURSE OBJECTIVES:

1. Identify the different processor types, describe their basic operations, and explain their appropriateness for application programs.
2. Identify the different hard drive types, describe their basic operations, and explain their appropriateness for application programs.
3. Identify the different video types, describe their basic operations, and explain their appropriateness for application programs.
4. Identify the different types of computer architecture, describe their basic operations, and explain their appropriateness for application programs.
5. Identify the different printer types, describe their basic operations, and explain their appropriateness for application programs.
6. Identify the different components in a multimedia system, describe their basic operations, and explain their appropriateness for application programs.
7. Identify the new operating systems, describe their basic operations, and explain their appropriateness for application programs.
8. Identify the different support chip sets, describe their basic operations and explain their importance to a personal computer.
9. Identify the different memory technologies, describe their basic operations and explain their importance to a personal computer.
10. Identify the different removable drive technologies, describe their basic operations and explain their importance to a personal computer.
11. Design, build, configure, troubleshoot and use a basic Windows class computer.

COURSE OUTLINE:

1. History of computers, 'anatomy' of a computer, electrical safety, computer cases, form factors, power supplies, cabling, cooling
2. Motherboards, major components on the motherboard, ports available, connectors, slots, sockets, types, clocks
3. Microprocessors, history, advances in chip manufacturing technology
4. Computer startup (boot) process, BIOS chips, CMOS settings, Interrupts for devices to request attention, errors codes during startup
5. Memory, types, specifications, visual identification, matching with motherboard, upgrades
6. Storage device Hard drives, IDE, SCSI, controllers, installation, partitioning, formatting, upgrading
7. Removable storage devices floppy drive, optical, CD, DVD, backup procedures
8. Input/Output (I/O) devices: audio, video, monitor, printer

COURSE OUTLINE (continued):

9. I/O devices: keyboard, mouse, scanner, ports
10. Networking concepts, wireless, modems
11. Notebooks, building PCs, OS, troubleshooting

COURSE REQUIREMENTS:

1. Complete all homework and reading assignments, simulation experiments and submit these on the prescribed dates.
2. Complete assigned laboratory work and project/term paper as prescribed by the instructor.
3. Complete the assessments covering material from: homework, labs, and from assigned readings in the text.
4. Maintain a 3-ring binder or folder for organizing class materials.

EVALUATION:

Each student will be evaluated as follows:

- Assessments (50%) – 3 assessments
- Lab (30%) – between 15-20 lab assignments, by filling out class-worksheets
- Paragraphs (15%) – 1 paragraph on topic of the week
- Assignments (5%) – 10 group assignments for creating questions on topic of week

Mid-term grades will be made available to students before March 4, 2005.

The 1st and 2nd assessment will have 2 parts 80% objective (1 page of notes permitted) and 20% (troubleshooting type or word problems with any texts, CDs permitted except internet access)

On the objective type part, 50% of questions will be taken from those created by students in the class under groups assignments relevant to those chapters.

10 questions per group are needed to be posted to the discussion board section most weeks (refer to the calendar). I will collect all questions in a larger file and post them under Course documents for each week – each question must be printed with one correct and at least one incorrect answer.

1st assessment – covering Ch. 2, 4, 5, part of 6, 11 of T1; related group assignment questions

2nd assessment – covering Ch. 3, 8; related group assignment questions

Final Assessment – **Comprehensive**, covering Ch. 1 – 11, related group assignment questions

The final assessment will be weighed more than the 1st and 2nd assessment, and will have a laboratory component relating to building of a computer system. It will have three sections: objective (60%), troubleshooting type (20%), build of a computer system (20%).

You may rework and resubmit your assessments (except the final), assignments, paragraphs or labs for limited partial credit.

A grade of A will be awarded for 2 written assessments (excluding the final) for students who have passed the hardware section of the A+ exam *prior to this semester*.

For student who hold the complete A+ certification (one of the important objectives of this class) the 1st and 2nd written assessments, and objective portion of the final assessment will be awarded a grade of A. They will need to answer the troubleshooting and computer building part, and complete the labs, as well as weekly paragraphs to get credit for the course.

Paragraphs: One paragraph related to the topic being discussed in class is to be written. It should be from a recent (2003 onwards) computer related magazine, conference paper, internet web site. Complete references for the original article, including when it was retrieved for web sources, and preferably a copy of the article itself should be provided. Alternately students may choose to present their article using a 2-3 (max) slide PowerPoint to the rest of the class.

Attendance Policy:

After the second unexcused absence, each unexcused absence will cause one percent deduction from the "Attendance and Professional Evaluations" average. Eight (8), and nine (9) unexcused absence, will result in one letter grade lower. Your grade will be an automatic F if you have more than ten (10) unexcused absences. Makeup labs/exams will be permitted only if you had sought and received my approval prior to the absence which caused you to miss the related lab/exam.

Grades:

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

BS degree students in the CEN major enrolled in EET302 must attend the College of Business & Technology Professional Skills Conference, Friday, April 1, 2005.

STATEMENT OF DISABILITY:

ADA

If you are registered with the Office of Services for Individuals with Disabilities, please make an appointment with the course instructor to discuss any academic accommodations you need. If you need academic accommodations and are not registered with the Office of Services for Individuals with Disabilities, please contact the office on the third floor of the Student Services Building, by email at disabilities@eku.edu or by telephone at (859) 622-2933 V/TDD. Upon individual request, this syllabus can be made available in alternative forms.

☺ The work you do in the laboratory, and the grade you earn, should reflect your personal abilities, and accomplishments. Individual homework and lab reports are required from each student. I encourage you to discuss your assignments with other students. However any work you submit must be your own.

☺ Any suggestions leading to improvements in the content or presentation of the course, especially in the laboratory work, are most welcome.