

**EET 303**  
**LANs & PC Communications**  
**Spring 2007**

**Instructor:**

Prof. Vigs Chandra, PhD

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**Office:**

405 Whalin Technology Complex

**Class schedule:**

Section 001, CRN 23066; MW: 10.10 am – 12.05 pm, in Room 403/400

**Office Hours:**

MW: 8 - 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 provides the participant with basic information on installing, troubleshooting and using microcomputer communications and local area network hardware and software.

**TEXTBOOK:**

1. **Exam Cram 2, Network+, 2nd edition**, Mike Howard, Drew Bird; Que Certification; ISBN: 0789732548
2. **Scott Mueller's Upgrading & Repairing Networks**, 5<sup>th</sup> edition; Scott Mueller, Terry Ogletree, Mark Edward Soper; Que Publishing; ISBN: 078973530X (or 4<sup>th</sup> edition ISBN: 0789728176)

**References (Web sources):**

[www.intel.com](http://www.intel.com), [www.amd.com](http://www.amd.com), [www.tomshardware.com](http://www.tomshardware.com), [www.zipzoomfly.com](http://www.zipzoomfly.com),  
<http://anandtech.com>, [www.motherboards.org](http://www.motherboards.org), [www.howthingswork.com](http://www.howthingswork.com),  
[www.answersthatwork.com](http://www.answersthatwork.com), [www.webopedia.com](http://www.webopedia.com)

## **COURSE OBJECTIVES:**

1. Understand fundamental concepts of computer networking
2. Identify network cabling standards and install network cables
3. Install and configure a Windows XP network.
4. Share folders, files, printers and map drives.
5. Identify the different network types, describe their basic operations, and explain their appropriateness for different office environments.
6. Understand the OSI network model, addressing and configure Ethernet network protocols
7. Install, configure and troubleshoot a web / ftp / email / proxy servers and clients.
8. Troubleshoot computer networks.
9. Configure computer systems for remote access
10. Share one PC's Internet access with multiple PCs at the same time.
11. Install, configure and troubleshoot live video and voice over the Internet.
12. Install, configure and troubleshoot a firewall.
13. Install, configure and troubleshoot a wired / wireless network router.
14. Install and configure Linux / Macintosh / Windows 2003 / Small business systems server
15. Become familiar with computer electronic networking certifications (CompTIA Network+)

## **COURSE OUTLINE:**

1. Introduction to networks
  - A. Computer networks
  - B. Obtaining computer and network related information
  - C. Switches / Cables / NICs / installation / configuration / troubleshooting
  - D. Overview of the CompTIA network+ certification
2. Windows 2000 / XP networks
  - A. Configuring shares.
  - B. Managing / troubleshooting access.
3. Selecting network hardware
  - A. Small Office Home Office environment
  - B. Networking devices
  - C. Open Systems Interconnect (OSI) network architecture model
  - D. Network protocols
4. Web servers.
  - A. Web browsers
  - B. Installation / configuration / management / troubleshooting web servers
  - F. Web site creation / management.
5. FTP servers & clients
  - A. General concepts
  - B. Installation / configuration / management / troubleshooting ftp servers

## **COURSE OUTLINE (continued):**

6. Network Troubleshooting
  - A. TCP/IP network troubleshooting
  - B. Addressing
  - C. Network services
  
7. WAN Technologies and Remote Network Access
  - A. General concepts
  - B. Telnet
  - C. Sketching networking connection
  - D. Remote desktop
  - E. Troubleshooting
  
8. Live video & audio
  - A. General concepts
  - B. Installing web Cameras
  - C. Configuring NetMeeting
  - D. Management / troubleshooting of multimedia connections
  
9. Security and network management
  - A. General concepts
  - B. Firewalls and anti-virus
  - C. Installation / configuration / management / troubleshooting security
  
10. WAN routers
  - A. General concepts
  - B. Installation / configuration / management / troubleshooting
  
11. Wireless networks
  - A. General concepts
  - B. Installation / configuration / management / troubleshooting
  
12. E-mail servers and clients
  - A. General concepts
  - B. Installation / configuration / management / troubleshooting
  
13. Proxy servers
  - A. General concepts
  - B. Installation / configuration / management / troubleshooting
  
14. Other NOSs
  - A. Linux
  - B. Macintosh / Windows 2003 / Windows Small Business Server
  
15. CompTIA Network+
  - A. Professional certifications in networking
  - B. Preparing for and taking the Network+ certification

## COURSE REQUIREMENTS:

Students are expected to:

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

## EVALUATION:

Each student will be evaluated as follows:

- Assessments (50%) – 3
- Laboratory (30%) – 10-15 (approx.)
- Paragraphs (15%) – 8-10 (approx.), 1 paragraph for selected topics every 1-2 weeks
- Portfolio (5%) – Class materials, key points on networking topics for Network+ certification

The 1<sup>st</sup> and 2<sup>nd</sup> assessment will have 2 parts – a 75% short answer/objective type (1 page of notes permitted) and a 25% troubleshooting type (any texts, CDs permitted, except web access). The final assessment will be weighed more than the 1<sup>st</sup> and 2<sup>nd</sup> assessment, and will include a group laboratory activity component. It will have three sections: short answer/objective (75%), troubleshooting type (15%), and setting up of a networked system (10%).

1<sup>st</sup> assessment – covering Ch. 1, 2, 3, possibly part of 4 in the Network+ text; related group assignment questions. To be held around Week 6 of the semester (Feb. 19-23).

2<sup>nd</sup> assessment – covering Ch. 4, 5, 6, part of 10 in the Network+ text; related group assignment questions. To be held around Week 12 of the semester (Apr. 2-6).

Final Assessment – **Comprehensive**, covering Ch. 1 – 11

You may rework and resubmit your assessments (except the final), paragraphs or labs for limited partial credit. Labs and paragraphs turned in late will have reduced credit.

The EET303 class portfolio will be useful in organizing your learning – maintain separate sections for notes, laboratory activities, paragraphs, assessments, and preparatory notes for the Network+ certification. The portfolio is to be brought in at the time of the final for evaluation.

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

*Paragraphs:* Paragraphs related to selected topics in networking being discussed in the class, are to be submitted every 1-2 weeks. These should and cover advances in the field of networking and be taken from a recent (2006 onwards) computer related magazine, preferably conference paper, or internet web site. Summarize in your own words the main points of the articles, what you found most interesting, and indicate how it relates to class discussions or laboratory activities. Students will be invited to share their findings with the rest of the class. Complete

references about the article on which the paragraph is based should be provided, including information about when it was retrieved from the web, and preferably a copy of the article itself, should be provided. The references are to be formatted using American Psychological Association (APA) guidelines <http://nutsandbolts.washcoll.edu/apa.html>. For identifying sources of technical articles, refer to the online ECU library databases. An online tutorial video on using the library databases for retrieving articles on computer systems is available at [http://www.people.eku.edu/chandrav/Ref/online\\_search\\_ECU\\_libraries.wmv](http://www.people.eku.edu/chandrav/Ref/online_search_ECU_libraries.wmv).

### **Attendance Policy:**

After the second unexcused absence, each unexcused absence will cause two percent deduction from the overall percentage. Four (4) unexcused absences will result in one letter grade lower each. Your grade will be an automatic F if you have more than seven (7) 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. You will benefit most by way of understanding the content of the course by completing all the assignments in a timely manner. If you know in advance that you will be absent, please inform me at the earliest.

### **Grades:**

100-90%	= A	69.9-60%	= D
89.9-80%	= B	Below 60%	= F
79.9-70%	= C		

Mid-term grades will be made available to students before Sat., March 10, 2007.

Student in the College of Business & Technology (CBT), including CEN/CE majors enrolled in EET303 are required to register for and attend the CBT Professional Skills Conference, Friday, April 6, 2007. While registering juniors should select BTS 300-001, CRN# 28888, and seniors should select BTS 400-001, CRN# 28895.

### **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](mailto: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.