

**Eastern Kentucky University**  
**Department of Technology**

**Syllabus for EET 303-001, LANs & PC Communications, 12944**  
**3 credit hours**  
**Fall 2009**

**Instructor:**

Prof. Vigs Chandra, PhD

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**Class schedule:**

Section 001, CRN: 12944; MW: 2:30 p.m.-4.25 p.m., in Room 407/400

**Office Hours:**

MTWR: 9:30 a.m.-11 a.m., and 4:30 p.m.-6 p.m. If my office door is open at other times I will most likely be available for discussion. Come right in. You may email me regarding additional meeting times if needed.

**CATALOG COURSE DESCRIPTION:**

This course provides the participant with basic information on installing, troubleshooting and using microcomputer communications and local area network hardware and software.

2 Lec/2 Lab.

**Prerequisite:**

None Grade of at least "C" in MAT 095 or a minimum math ACT score of 18 or a minimum SAT math score of 490.

**TEXTS:**

**Required:**

Howard, M., Bird, D., & Tittel, E. (2005). *Exam Cram 2, Network+*. Indianapolis, Indiana: Que Publishing. ISBN: 0789732548.

**Recommended:**

Mueller, S., Ogletree, T. W., & Soper, M. E. (2006). *Upgrading & Repairing Networks*. Indianapolis, Indiana: Que Publishing. ISBN: 078973530X (or 4<sup>th</sup> edition ISBN: 0789728176).

## **STUDENT LEARNING OUTCOMES:**

Upon successful completion of this course the student will be able to:

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

## **COURSE OUTLINE:**

1. Introduction to networks (Week 1-2)
  - a. Computer systems and networks
  - b. Obtaining computer and network related information
  - c. Overview of the CompTIA network+ certification
  - d. Computer operating systems
2. Wireless networks (Week 2)
  - a. General concepts
  - b. Installation / configuration / management / troubleshooting
3. Wired networks (Week 3-4)
  - a. Network interface cards (NICs)
  - b. Switches / Cables / NICs / installation / configuration / troubleshooting
4. Windows XP networks (Week 4-5)
  - a. Configuring shares.
  - b. Managing / troubleshooting access.
5. Selecting network hardware (Week 6-8)
  - a. Small Office Home Office environment
  - b. Networking devices
  - c. Open Systems Interconnect (OSI) network architecture model
  - d. Network protocols
  - e. TCP/IP addressing
6. Web servers. (Week 9)
  - a. Web browsers

- b. Installation / configuration / management / troubleshooting web servers
  - c. Web site creation / management.
- 7. FTP servers & clients (Week 10)
  - a. General concepts
  - b. Installation / configuration / management / troubleshooting ftp software
- 8. Proxy servers (Week 10)
  - a. General concepts
  - b. Installation / configuration / management / troubleshooting proxy software
- 9. E-mail servers and clients (Week 11)
  - a. General concepts
  - b. Installation / configuration / management / troubleshooting email software
- 10. Network Troubleshooting (Week 11-12)
  - a. TCP/IP network troubleshooting
  - b. Addressing
  - c. Network services
- 11. WAN Technologies and Remote Network Access (Week 13)
  - a. General concepts
  - b. Telnet
  - c. Sketching networking connection
  - d. Remote desktop
  - e. Troubleshooting
- 12. Live video & audio (Week 14)
  - a. General concepts
  - b. Installing web Cameras
  - c. Configuring NetMeeting
  - d. Management / troubleshooting of multimedia connections
- 13. Security and network management (Week 15)
  - a. General concepts
  - b. Firewalls and anti-virus
  - c. Network management
  - d. Installation / configuration / management / troubleshooting
- 14. Routers (Week 16)
  - a. General concepts
  - b. Installation / configuration / management / troubleshooting
- 15. CompTIA Network+ (Week 16)
  - a. Professional certifications in networking
  - b. Preparing for and taking the Network+ certification

## EVALUATION METHODS:

Each student will be evaluated as follows:

- Assessments (45%) – 3, including the final
- Laboratory (40%) – 12-15 (approx.)
- Paragraphs (10%) – 5 (approx.), paragraph on selected networking topics every 2-3 weeks
- Portfolio (5%) – Class materials and notes on topics related to Network+ certification

The 1<sup>st</sup> and 2<sup>nd</sup> assessment will have 2 parts – a 75% objective type (1 index card of notes permitted), and a 25% short answer/design 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: objective type (75%), short answer/design 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 during the 6<sup>th</sup> week (Sep. 28-30) of the semester.

2<sup>nd</sup> assessment – covering Ch. 4, 5, 6, part of 10 in the Network+ text; related group assignment questions. To be held during 12<sup>th</sup> week (Nov. 9-13) of the semester.

Final Assessment – **Comprehensive**, covering selected materials from Ch. 1-11. To be held Monday, Dec. 14, 1 p.m.-3 p.m.

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 complete 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 relatively recent (2005 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. The reference should also include a persistent link to

the article when possible. The references should be formatted using American Psychological Association (APA) guidelines available at <http://nutsandbolts.washcoll.edu/apa.html>. Refer to the Academic Search Premier Database (<http://www.library.eku.edu/new/index.php>) which is available for both on- and off-campus use through the ECU libraries, for identifying suitable technical articles. An online video tutorial on using the ECU library databases for is available at: <http://www.people.eku.edu/chandrav/Ref/onlineArticlesEKU.wmv>.

References (Web sources): [www.library.eku.edu/articles/default.php](http://www.library.eku.edu/articles/default.php), [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.answerthatwork.com](http://www.answerthatwork.com), [www.smartcomputing.com](http://www.smartcomputing.com), [www.webopedia.com](http://www.webopedia.com)

### **Course Requirements:**

Students are expected to:

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

### **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 by Friday, Oct. 16, 2009.

Tuesday, Dec. 22, 2009 – Final grades available online

### **STUDENT PROGRESS:**

Students will be informed of their progress in the course after the 1<sup>st</sup> assessment (approximately 6<sup>th</sup> week of the semester). All students are encouraged to meet with me and discuss their and identify opportunities for improvement at any time during the semester.

Sunday, Aug. 30, 2009 – End of Add/Drop period: Last day to drop a full semester course without a "W" appearing on the university transcript, last day to register for or add additional full-semester courses. Last day to convert "Pass/Fail" or "Audit" classes to a normal grade and credit option. Completed forms must be returned to: Registrar's Office (SSB 239), or Corbin, Danville, or Manchester centers.

Friday, Sep. 11, 2009 – Last day to convert a class from credit with normal grade to "Pass/Fail" or "Audit". Completed forms must be returned to: Registrar's Office (SSB 239), or Corbin, Danville, or Manchester centers.

**Last Day to Drop the Course:** Friday, Oct. 30, 2009 – Last day to withdraw with a "W" from a full-semester class, or to withdraw from full-semester classes or withdraw from the university.

**ATTENDANCE POLICY:**

Regular attendance is needed for students in order to successfully complete the course. After the second unexcused absence, each unexcused absence will cause two percent deduction in the overall percentage. Five (5) and seven (7) 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. If you have a university accepted excused absence, make-up work is permitted with no penalty. 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 assigned work in a timely manner. If you know in advance that you will be absent, please inform me at the earliest. Email is usually the fastest way of contacting me, or you may call.

**Cell Phones:**

Cellular phones should be off or on silent ring during class in order to keep classroom distractions at a minimum. Under special circumstances students are permitted to use the phone but should seek my approval prior to class.

**DISABILITY STATEMENT:**

If you are registered with the Office of Services for Individuals with Disabilities, please obtain your accommodation letters from the OSID and present them to the course instructor to discuss any academic accommodations you need. If you believe you need accommodation and are not registered with the OSID, please contact the Office in the Student Services Building Room 361 by email at [disserv@eku.edu](mailto:disserv@eku.edu) or by telephone at (859) 622-2933 V/TDD. Upon individual request, this syllabus can be made available in an alternative format.

**ACADEMIC INTEGRITY STATEMENT:**

Students are advised that EKU's Academic Integrity policy will strictly be enforced in this course. The Academic Integrity policy is available at [www.academicintegrity.eku.edu](http://www.academicintegrity.eku.edu). Questions regarding the policy may be directed to the Office of Academic Integrity.

**OFFICIAL E-MAIL:**

An official EKU e-mail is established for each registered student, each faculty member, and each staff member. All university communications sent via e-mail will be sent to this EKU e-mail address.

☺ 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 class 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.

*EKU will develop informed, critical & creative thinkers who communicate effectively.*

(EKU Quality Enhancement Plan, 2009)