Eastern Kentucky University
Department of Technology

Syllabus for EET 303-001, LANs & PC Communications, 20236
3 credit hours
Spring 2010

Instructor: Prof. Vigs Chandra, PhD
Office: 405 Whalin Technology Complex
Telephone: 859-622-1187
E-mail: vigs.chandra@eku.edu
Web: http://people.eku.edu/chandrav

Class schedule: Section 001, CRN: 20236; MW: 2:30 p.m. - 4:25 p.m., in Room 407/400
Office Hours: MTWR: 10 a.m. – 11:30 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:
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:
ISBN: 0789737965

Recommended (optional):

STUDENT LEARNING OUTCOMES:
Upon completion of this course, the student will:
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. Configure computer systems for remote and wireless access.
10. Install, configure and troubleshoot live video and voice over the Internet.
11. Install, configure and troubleshoot firewall / anti-virus / encryption / backup software.

EKU will develop informed, critical & creative thinkers who communicate effectively.
(EKU Quality Enhancement Plan, 2009)
12. Troubleshoot computer networks, devices, and software, while maintaining proper safety precautions.
13. Perform online research for efficiently identifying reliable sources of information.
14. Communicate laboratory procedures, testing/troubleshooting steps, and experimental results effectively.
15. Prepare 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
   e. Network models
   f. Network topologies
   g. Wired and wireless networks

2. Wired networks (Week 2-3)
   a. Network interface cards (NICs)
   b. Switches / Cables / Connectors/ NICs / installation / configuration / troubleshooting
   c. IEEE Ethernet networking standards

3. Windows XP networks (Week 3-4)
   a. Configuring shares.
   b. Managing / troubleshooting access.

4. Selecting network hardware (Week 4-5)
   a. Small Office Home Office environment
   b. Networking devices

5. Network models, protocols, and addressing (Week 5-7)
   a. Open Systems Interconnect (OSI) network architecture model
   b. Network protocols
   c. TCP/IP addressing
   d. Network utilities
   e. Network diagrams

6. Web servers (Week 7-8)
   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 10-11)
   a. General concepts
   b. Installation / configuration / management / troubleshooting proxy software
9. E-mail servers and clients (Week 11-12)
   a. General concepts
   b. Installation / configuration / management / troubleshooting email software

10. WAN Technologies and Remote Network Access (Week 12-13)
    a. General concepts
    b. Telnet
    c. Remote desktop
    d. Troubleshooting
    e. Live video and audio over the network
    f. Installing web Cameras
    g. Configuring NetMeeting
    h. Management / troubleshooting of multimedia connections

11. Security and network management (Week 13-14)
    a. General concepts
    b. Firewalls
    c. Anti-virus
    d. Encryption and decryption
    e. Data backup
    f. Authentication, Authorization, and Accounting (AAA)
    g. Installation / configuration / management / troubleshooting

12. Wireless networks (Week 14-15)
    a. General concepts
    b. Installation / configuration / management / troubleshooting

13. Network Troubleshooting (Week 15-16)
    a. TCP/IP network troubleshooting procedures
    b. Installation / configuration / security / management / troubleshooting

14. CompTIA Network+ and advanced topics (Week 16)
    a. Professional certifications in networking
    b. Preparing for and taking the Network+ certification
    c. Installation / configuration / management / troubleshooting routers
    d. Advanced network management and security

**EVALUATION METHODS:**
Each student will be evaluated as follows:
- Assessments (45%) – 3, including the final
- Laboratory activities (40%) – 12-15 (approx.)
- Paragraphs (10%) – 4 (approx.), paragraph on selected networking topics every 3-4 weeks
- Portfolio (5%) – Class materials and notes on topics related to Network+ certification

The 1st and 2nd assessment will have 2 parts – a 75% objective type (one side of a 3 in. x 5 in. index card permitted for handwritten notes), and a 25% short answer/design type (any texts, CDs permitted, except web access).
The final assessment will be weighed more than the 1\textsuperscript{st} and 2\textsuperscript{nd} assessment, and will include a group laboratory activity component. It will have three sections: objective type (75\%, with both sides of a 3 in. x 5 in. index card permitted for handwritten notes), short answer/design type (15\%), and setting up of a networked system (10\%).

1\textsuperscript{st} assessment – covering class notes, labs, assignments, classroom discussions, and selected textbook content related to networking basics, cabling. To be held during the 6\textsuperscript{th} week (Feb. 15-19) of the semester.

2\textsuperscript{nd} assessment – covering class notes, labs, assignments, classroom discussions, and selected textbook content. To be held during the 13\textsuperscript{th} week (Apr. 5-9) of the semester.

Final Assessment – Comprehensive, covering class notes, labs, assignments, classroom discussions, and selected textbook content from Ch. 1-11. To be held Monday, May 3, 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\textsuperscript{st} and 2\textsuperscript{nd} 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, complete the labs, and 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 2-3 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 EKU libraries, for identifying suitable technical articles. An online video tutorial on using the EKU library databases for is available at: http://www.people.eku.edu/chandrav/Ref/onlineArticlesEKU.wmv.

Course Requirements:
Students are expected to:
   1. Attend each lecture and laboratory session.
   2. Complete all homework submit these on the prescribed dates.
   3. Complete assigned labs and simulations as prescribed by the instructor.
   4. Complete the assessments covering material from the assignments, labs, classroom discussions, and textbook.
   5. Maintain a 3-ring binder or folder for organizing class and reference materials

Grades:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-90%</td>
<td>A</td>
</tr>
<tr>
<td>89.9-80%</td>
<td>B</td>
</tr>
<tr>
<td>79.9-70%</td>
<td>C</td>
</tr>
<tr>
<td>69.9-60%</td>
<td>D</td>
</tr>
<tr>
<td>Below 60%</td>
<td>F</td>
</tr>
</tbody>
</table>

Mid-term grades will be made available to students by Friday, March 5, 2010.

Tuesday, May 11, 2010 – Final grades available online under EKUDirect/StudentRecords/Official Grade Report

STUDENT PROGRESS:
Students will be informed of their progress in the course after the 1st assessment (approximately 6th week of the semester). All students are encouraged to meet with me for discussing their progress as well as to identify opportunities for improvement at any time during the semester.

Friday, March 19, 2010 – Last day to withdraw with a "W" from a full-semester class, or to withdraw from full-semester classes or withdraw from the university.

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.

ATTENDANCE POLICY:
Regular attendance is needed for students in order to successfully complete the course. After the second (2), unexcused absence each unexcused absence will cause a five percent (5%) deduction in the overall percentage. Five (5) to 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.

Cell Phones: Cellular phones should be off or on silent operation 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 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. Questions regarding the policy may be directed to the Office of Academic Integrity.

😊 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.