COURSE OUTLINE
ELEC 126 – DIGITAL SYSTEM FOR TELECOMMUNICATIONS II (Verizon)

Prepared By:  Art Hurlbut
Revised By:  Stacia Dutton
A. **TITLE:** DIGITAL SYSTEM FOR TELECOMMUNICATIONS II

B. **COURSE NUMBER:** ELEC 126  
**SHORT TITLE:** DIGITAL SYSTEMS II

C. **CREDIT HOURS:** 4

D. **WRITING INTENSIVE COURSE (OPTIONAL):** N/A

E. **COURSE LENGTH:** 15 WEEKS

F. **SEMESTER(S) OFFERED:** FALL

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**  
4 HOURS LECTURE PER WEEK

H. **CATALOGUE DESCRIPTION:** In this course students will be working with hardware and software installation with an introduction of the personal computer fundamentals. Students will connect a personal computer to a network, and install and setup a printer. The course will cover managing and supporting Windows. Configure user related issues and customization. Learning how to maintain a computer and troubleshooting fundamentals. An optional topic would cover Home Technology Integration including surveillance and home automation. The course is composed of lecture and in-class demonstration.

I. **PRE-REQUISITES/CO-COURSES:** ELEC 125 - Digital System for Telecommunications I
J. GOALS (STUDENT LEARNING OUTCOMES):
   By the end of this course, the student will:

<table>
<thead>
<tr>
<th>Course Objective</th>
<th>Institutional SLO</th>
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<tbody>
<tr>
<td>a. Identify the advantages and disadvantages of the different Operating Systems</td>
<td>2. Crit. Thinking</td>
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<td>3. Prof. Competence</td>
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<td>b. Describe the installation of hardware components and install an Operating System</td>
<td>1. Communication</td>
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<td>2. Crit. Thinking</td>
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<td>c. Explain and use different troubleshooting tools and utility software</td>
<td>1. Communication</td>
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<td>2. Crit. Thinking</td>
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<td>d. Analyze the difference and similarities from personal computers to notebooks, tablets, PDAs and other Handheld Devices</td>
<td>2. Crit. Thinking</td>
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<td>e. List the different types of printers and demonstrate how to setup a printer</td>
<td>1. Communication</td>
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<td>2. Crit. Thinking</td>
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<td>f. Demonstrate a basic understanding of networks</td>
<td>2. Crit. Thinking</td>
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<td>3. Prof. Competence</td>
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<td>g. Manage and support Windows security, registry, recovery methods</td>
<td>2. Crit. Thinking</td>
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<td>3. Prof. Competence</td>
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<td>h. Demonstrate how to customize the computer for each individual customer use</td>
<td>2. Crit. Thinking</td>
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<td>3. Prof. Competence</td>
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<td>i. Explain how to work with support services</td>
<td>1. Communication</td>
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<td>2. Crit. Thinking</td>
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2. MCDST 70-272: Supporting Users and Troubleshooting Desktop Applications on a Microsoft Windows XP Operating System by Carswell, Course Technology

L. REFERENCES:

M. EQUIPMENT: Blackboard and the internet are to be used as an integral part of the course delivery process, Laptop computer, Scientific calculator, MultiSim, Microsoft Office

N. GRADING METHOD: (P/F, A-F, etc.) A-F

O. MEASUREMENT CRITERIA/METHODS:
1. Pre-testing, progress testing, and post-testing
2. Completion of Blackboard-posted assignments (HW, study, etc.)
3. Completion of hands-on lab work
4. Completion of a Project

P. DETAILED TOPICAL OUTLINE:
1. Installing and Using Windows XP Professional
   a. Features and Architecture
b. Installing

c. Using

d. Installing Hardware and Software

2. Choosing an Operating System
   • Current and Legacy Operating Systems (DOS, Win9x, WinNT, Win2000, WinXP, Unix, Linux, MacOS)
   • Advantages vs. Disadvantages

3. Managing and Supporting Windows
   • Security
   • Registry
   • Troubleshooting the Boot Process
   • Maintenance and Troubleshooting Tools
   • Disaster Recovery

4. Introduction to Supporting Users
   • Resolving User Problems
   • Using Remote Assistant
   • Relationships Within the IT Department
   • Resolve Issues Related to Operating System Customization
   • Customizing the Start Menu and Taskbar
   • Customizing Accessibility Settings
   • Customizing the Display Fonts

5. Configure User-Related Issues
   • Configuring Access to Applications on Multi-user Computers
   • Configuring the Operating System to Support Applications

6. Maintenance and Troubleshooting Fundamentals
   • POST
   • Error codes (audio and display)
   • Scandisk
   • System Defragmenter
   • PM (cleaning)
   • Backup and Restoring Registry
   • Backup and Restoring Files
   • RAID

7. Configuring and Troubleshooting Operating System Features
   • Resolving Issues Related to Operating System Features
   • Troubleshooting Tools
   • System Restore

8. Utility Software
   • Anti-virus
   • Spyware & Adware
   • Firewalls
   • Security

9. Notebooks, Tablets, PDAs, and other Handheld Devices

10. Supporting Printers
• Types
• Setup
• Print sharing
11. Connecting PCs to Networks and the Internet (Brief Discussion)
• Types
  ▪ Ethernet
  ▪ Wireless
  ▪ Home networking
• Peer to Peer
• Client-Server
12. Home Technology Integration (HTI+)  Optional
• Audio
• Video
• Telephone
• Cable
• Home Automation
• Surveillance

Q.  PROJECT LIST:
  • Installing and Using Windows XP Professional
  • Choosing an Operating System
  • Managing and Supporting Windows
  • Introduction to Supporting Users
  • Configure User-Related Issues
  • Maintenance and Troubleshooting Fundamentals
  • Configuring and Troubleshooting Operating System Features
  • Utility Software
  • Notebooks, Tablets, PDAs, and other Handheld Devices
  • Supporting Printers
  • Connecting PCs to Networks and the Internet (Brief Discussion)
  • Home Technology Integration (HTI+)  Optional