

Western Technical College

## 10150198 Network Service and Support

### Course Outcome Summary

#### Course Information

<b>Description</b>	Students apply the skills and techniques of an information technology (IT) professional supporting an IT installation. IT technology is constantly changing. Students learn how to keep current on IT trends, supporting, exploring, selecting and implementing IT changes. The course uses a variety of tools, exploring the use of project management techniques and software, investigates the status of current and future IT emerging technologies, and implements a VoIP strategy.
<b>Career Cluster</b>	Information Technology
<b>Instructional Level</b>	Associate Degree Courses
<b>Total Credits</b>	3
<b>Total Hours</b>	90

#### Textbooks

No textbook required.

#### Program Outcomes

1. Implement computer networks.
2. Implement client systems.
3. Implement server operating systems.
4. Implement network security components.
5. Develop technical documentation.
6. Troubleshoot network systems.
7. Maintain the network infrastructure

#### Course Competencies

##### 1. Value working with others

###### Criteria

*You will know you are successful when:*

- 1.1. you join in group discussions
- 1.2. you share ideas with others

- 1.3. you listen to ideas of others
- 1.4. you display mature attitudes towards others
- 1.5. you participate in team activities
- 1.6. you accept responsibility for completing assigned tasks
- 1.7. you encourage other members of the team to participate
- 1.8. you arrive at meeting place on time and with required materials

#### **Learning Objectives**

- 1.a. Work successfully in groups
- 1.b. Appreciate individual differences
- 1.c. Accept responsibility for completing tasks

## **2. Present a report on a current IT event**

#### **Criteria**

*You will know you are successful when:*

- 2.1. you have selected an IT current event
- 2.2. you have researched at least three topic related sources
- 2.3. you have prepared a powerpoint presentation
- 2.4. you have given a 4-5 minute presentation
- 2.5. you have responded to questions pertaining to the topic
- 2.6. you have asked questions of other presenter on their topics
- 2.7. you have completed a self evaluation of the presentation

#### **Learning Objectives**

- 2.a. Select a current IT topic for presentation
- 2.b. Prepare a current IT report using visual aids
- 2.c. Present IT topic to an IT audience

## **3. Explore and research an emerging IT technology**

#### **Criteria**

*You will know you are successful when:*

- 3.1. you have given a 30 minute presentation on an emerging technology
- 3.2. you have included a demonstration on the features of the emerging technology
- 3.3. you have answered questions relevant to the technology
- 3.4. you have done a self evaluation of the presentation
- 3.5. you have explained the value of the topic selected
- 3.6. you have demonstrated active listening when others give presentations
- 3.7. you have completed an executive summary on the topic

#### **Learning Objectives**

- 3.a. Conduct research on an emerging technology
- 3.b. Prepare a presentation of an emerging technology
- 3.c. Present a report on an emerging technology

## **4. Examine and implement the major features of project management**

#### **Criteria**

*You will know you are successful when:*

- 4.1. you have designed a project using Microsoft Project Management software
- 4.2. you have prepared a report explaining the benefits of using a project management tool
- 4.3. you have identified key terms associated with project management and created a list of definition
- 4.4. you have created a report listing the reasons why projects fail and recommend preventive measures
- 4.5. you have researched other project management software other than Microsoft
- 4.6. you have created a small project that can be implement, tracked and completed

#### **Learning Objectives**

- 4.a. Define terminology associated with project management
- 4.b. Explain the value of using a project management tool
- 4.c. Explore the use of Microsoft's Project Management software

## **5. Implement and identify the major components of a VoIP system**

### **Criteria**

*You will know you are successful when:*

- 5.1. you have prepared a list of VoIP standards and signaling protocols
- 5.2. you have fully implemented and tested a VoIP system
- 5.3. you have identified security risks using a VoIP system
- 5.4. you have trained others in the use of a VoIP system
- 5.5. you have documented a VoIP installation
- 5.6. you are able to troubleshoot a VoIP system
- 5.7. you are able to maintain a VoIP system

### **Learning Objectives**

- 5.a. Explain the major features of VoIP
- 5.b. Implement a VoIP system
- 5.c. Manage and document a VoIP system

## **6. Examine resources for obtaining technical support**

### **Criteria**

*You will know you are successful when:*

- 6.1. you have accessed and demonstrated usage of Microsoft Technet support
- 6.2. you have accessed and demonstrated usage of other vendor web sites
- 6.3. you have identified and listed at least 3 online discussion groups or forums
- 6.4. you have identified and listed at least 3 professional journals or magazines
- 6.5. you have prepared a list of reasons for contacting using technical support
- 6.6. you have prepared a knowledge base of a simulated company's internal IT support
- 6.7. you have demonstrated usage of webcasts

### **Learning Objectives**

- 6.a. Recognize the value of using vendors technical support web sites
- 6.b. Prepare a list of technical resources on the internet
- 6.c. Develop a plan for using technical references on a regular basis

## **7. Apply IT competencies to a "capstone" or simulation IT installation**

### **Criteria**

*You will know you are successful when:*

- 7.1. you have interviewed client and reviewed users RFP
- 7.2. you have researched solutions and costs associated with RFP
- 7.3. you have prepared a response and proposal to an RFP defining the scope of the project
- 7.4. you have implemented your solution to the RFP
- 7.5. you have resolved all problems and issues
- 7.6. you have installed all patches and have hardware and software at latest release levels
- 7.7. you have completed a reflection on the project and working with users
- 7.8. you have completed the documentation and user manual

### **Learning Objectives**

- 7.a. Design a LAN for a small to media size network based on user requirements
- 7.b. Complete installation and upgrade of LAN
- 7.c. Create user documentation and operation procedures of LAN

## **8. Develop a trouble shooting strategy**

### **Criteria**

*You will know you are successful when:*

- 8.1. you interviewed an IT installation regarding their installation monitoring process
- 8.2. you prepared a report on the IT interview highlighting key monitoring components
- 8.3. you prepared a report explaining how to create a baseline of a network and server performance
- 8.4. you prepared a training format for others to use to recognize and report network problems

- 8.5. you created a problem log
- 8.6. you devise a step-by-step strategy to locate the source of a problem
- 8.7. you show how documenting problems and solutions is important to the IT organization
- 8.8. you describe how knowledge of an organization may help in troubleshooting network problems

**Learning Objectives**

- 8.a. Create a baseline to determine normal network activity
- 8.b. Train others to recognize and report network errors
- 8.c. Devise an orderly approach to troubleshooting
- 8.d. Explain how to gather information to use in troubleshooting
- 8.e. Describe importance of recording error messages
- 8.f. Create a problem log

**9. Create a backup and business interruption plan**

**Criteria**

*You will know you are successful when:*

- 9.1. you explain the importance of redundancy
- 9.2. you evaluate the value of a cold site, warm site, and hot site
- 9.3. you describe the function of an Uninterruptible Power Supply (UPS)
- 9.4. you access the potential causes of natural disasters
- 9.5. you locate and review business interruption plans
- 9.6. you create a business interruption plan
- 9.7. you compare and contrast various backup media
- 9.8. you list costs and value of having redundant equipment
- 9.9. you explain the value and cost of uptime availability and downtime
- 9.10. you test a backup and restore procedure

**Learning Objectives**

- 9.a. Describe and compare various backup media
- 9.b. Examine various types of business interruption
- 9.c. Develop a business interruption plan
- 9.d. Explain the importance of system availability