

DESE Model Curriculum: Network Administration (CIP Code: 11.0103)

GRADE LEVEL/UNIT TITLE: 11-12/Troubleshooting

COURSE INTRODUCTION					
<p>A knowledge and understanding of networking concepts prepare students for the career area of network administration. As technology advances, the demand will continue to increase for employees who are able to resolve computer network problems.</p> <p>Students apply problem-solving skills to business situations exploring computer maintenance activities. Students will analyze software problems, install software applications programs and customize defaults, connect components of a local area network, use basic network protocol, and troubleshoot network problems.</p>					
UNIT DESCRIPTION				SUGGESTED UNIT TIMELINE	
Students will learn to follow structured troubleshooting procedures.				2 weeks	
				CLASS PERIOD (min.)	
				50	
ESSENTIAL QUESTIONS					
Why follow a structured troubleshooting procedure?					
ESSENTIAL MEASURABLE LEARNING OBJECTIVES	NBEA STANDARD				DOK
1. Verify client access to network resources	IT-I.1	IT-IV.2	IT-X.3	COMM-I-B.2	2
	IT-I.2	IT-IV.3	IT-X.4	COMM-I-B.3	
	IT-I.3	IT-IV.4	IT-XII.2	COMM-I-C.1	
	IT-I.4	IT-V.1	IT-XII.3	COMM-I-C.2	
	IT-II.1	IT-V.2	IT-XIV.1	COMM-I-C.3	
	IT-II.2	IT-V.3	IT-XIV.2	COMM-I-C.4	
	IT-II.3	IT-V.4	IT-XIV.3	COMM-I-D.1	
	IT-II.4	IT-VIII.1	COMM-I-A.1	COMM-I-D.2	
	IT-III.1	IT-VIII.2	COMM-I-A.2	COMM-I-D.3	
	IT-III.2	IT-VIII.3	COMM-I-A.3	COMM-I-D.4	
	IT-III.3	IT-VIII.4	COMM-I-A.4	COMM-IV.1	
	IT-III.4	IT-IX.1	COMM-I-B.1	COMM-IV.2	
	IT-IV.1				
2. Utilize existing technical resources for problem resolution (e.g., Internet, technical manuals, e-mail)	IT-I.1	IT-III.2	IT-V.2	IT-X.3	3
	IT-I.2	IT-III.3	IT-V.3	IT-X.4	
	IT-I.3	IT-III.4	IT-V.4	IT-XII.2	
	IT-I.4	IT-IV.1	IT-VIII.1	IT-XII.3	
	IT-II.1	IT-IV.2	IT-VIII.2	IT-XIV.1	
	IT-II.2	IT-IV.3	IT-VIII.3	IT-XIV.2	
	IT-II.3	IT-IV.4	IT-VIII.4	IT-XIV.3	

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	IT-II.4 IT-III.1	IT-V.1	IT-IX.1		
3. Identify sources of electromagnetic and radio frequency interference	IT-I.1 IT-I.2 IT-I.3 IT-I.4 IT-II.1 IT-II.2 IT-II.3 IT-II.4	IT-IV.1 IT-IV.2 IT-IV.3 IT-IV.4 IT-V.1 IT-V.2 IT-V.3	IT-V.4 IT-VIII.1 IT-VIII.2 IT-VIII.3 IT-VIII.4 IT-IX.1 IT-X.3	IT-X.4 IT-XII.2 IT-XII.3 IT-XIV.1 IT-XIV.2 IT-XIV.3	1
4. Use troubleshooting tools to determine problem areas	IT-I.1 IT-I.2 IT-I.3 IT-I.4 IT-II.1 IT-II.2 IT-II.3 IT-II.4 IT-III.1 IT-III.2 IT-III.3 IT-III.4 IT-IV.1 IT-IV.2 IT-IV.3 IT-IV.4	IT-V.1 IT-V.2 IT-V.3 IT-V.4 IT-VIII.1 IT-VIII.2 IT-VIII.3 IT-VIII.4 IT-IX.1 IT-X.3 IT-X.4 IT-XII.2 IT-XII.3 IT-XIV.1 IT-XIV.2 IT-XIV.3	MGMT-I-A.1 MGMT-I-A.2 MGMT-VIII-A.1 MGMT-VIII-A.2 MGMT-VIII-A.3 MGMT-VIII-A.4 MGMT-VIII-B.3 COMM-I-A.1 COMM-I-A.2 COMM-I-A.3 COMM-I-A.4 COMM-I-B.1 COMM-I-B.2 COMM-I-B.3 COMM-I-C.1 COMM-I-C.2	COMM-I-C.3 COMM-I-C.4 COMM-I-D.1 COMM-I-D.2 COMM-I-D.3 COMM-I-D.4 COMM-IV.1 COMM-IV.2 COMP-I.1 COMP-II.1 COMP-II.2 COMP-III.1 COMP-III.2 COMP-IV.1 COMP-IV.2 COMP-V.2	3
5. Analyze system log files	IT-I.1 IT-I.2 IT-I.3 IT-I.4 IT-II.1 IT-II.2 IT-II.3 IT-II.4	IT-V.2 IT-V.3 IT-V.4 IT-VIII.1 IT-VIII.2 IT-VIII.3 IT-VIII.4 IT-IX.1	MGMT-VIII-A.1 MGMT-VIII-A.2 MGMT-VIII-A.3 MGMT-VIII-A.4 MGMT-VIII-B.3 COMM-I-A.1 COMM-I-A.2 COMM-I-A.3	COMM-I-D.1 COMM-I-D.2 COMM-I-D.3 COMM-I-D.4 COMM-IV.1 COMM-IV.2 CARDEV-III-A.1 CARDEV-III-A.2	4

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	IT-III.1	IT-X.3	COMM-I-A.4	COMP-I.1	
	IT-III.2	IT-X.4	COMM-I-B.1	COMP-II.1	
	IT-III.3	IT-XII.2	COMM-I-B.2	COMP-II.2	
	IT-III.4	IT-XII.3	COMM-I-B.3	COMP-III.1	
	IT-IV.1	IT-XIV.1	COMM-I-C.1	COMP-III.2	
	IT-IV.2	IT-XIV.2	COMM-I-C.2	COMP-IV.1	
	IT-IV.3	IT-XIV.3	COMM-I-C.3	COMP-IV.2	
	IT-IV.4	MGMT-I-A.1	COMM-I-C.4	COMP-V.2	
	IT-V.1	MGMT-I-A.2			
6. Perform and interpret diagnostics (both software and hardware)	IT-I.1	IT-IV.4	IT-XIV.1	COMM-I-D.1	4
	IT-I.2	IT-V.1	IT-XIV.2	COMM-I-D.2	
	IT-I.3	IT-V.2	IT-XIV.3	COMM-I-D.3	
	IT-I.4	IT-V.3	COMM-I-A.1	COMM-I-D.4	
	IT-II.1	IT-V.4	COMM-I-A.2	COMM-IV.1	
	IT-II.2	IT-VIII.1	COMM-I-A.3	COMM-IV.2	
	IT-II.3	IT-VIII.2	COMM-I-A.4	COMP-I.1	
	IT-II.4	IT-VIII.3	COMM-I-B.1	COMP-II.1	
	IT-III.1	IT-VIII.4	COMM-I-B.2	COMP-II.2	
	IT-III.2	IT-IX.1	COMM-I-B.3	COMP-III.1	
	IT-III.3	IT-X.3	COMM-I-C.1	COMP-III.2	
	IT-III.4	IT-X.4	COMM-I-C.2	COMP-IV.1	
	IT-IV.1	IT-XII.2	COMM-I-C.3	COMP-IV.2	
	IT-IV.2	IT-XII.3	COMM-I-C.4	COMP-V.2	
	IT-IV.3				
7. Troubleshoot software/hardware integration problems	IT-I.1	IT-V.1	MGMT-I-A.1	COMM-I-C.3	3
	IT-I.2	IT-V.2	MGMT-I-A.2	COMM-I-C.4	
	IT-I.3	IT-V.3	MGMT-VIII-A.1	COMM-I-D.1	
	IT-I.4	IT-V.4	MGMT-VIII-A.2	COMM-I-D.2	
	IT-II.1	IT-VIII.1	MGMT-VIII-A.3	COMM-I-D.3	
	IT-II.2	IT-VIII.2	MGMT-VIII-A.4	COMM-I-D.4	
	IT-II.3	IT-VIII.3	MGMT-VIII-B.3	COMM-IV.1	
	IT-II.4	IT-VIII.4	COMM-I-A.1	COMM-IV.2	
	IT-III.1	IT-IX.1	COMM-I-A.2	COMP-I.1	
	IT-III.2	IT-X.3	COMM-I-A.3	COMP-II.1	

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	IT-III.3	IT-X.4	COMM-I-A.4	COMP-II.2	
	IT-III.4	IT-XII.2	COMM-I-B.1	COMP-III.1	
	IT-IV.1	IT-XII.3	COMM-I-B.2	COMP-III.2	
	IT-IV.2	IT-XIV.1	COMM-I-B.3	COMP-IV.1	
	IT-IV.3	IT-XIV.2	COMM-I-C.1	COMP-IV.2	
	IT-IV.4	IT-XIV.3	COMM-I-C.2	COMP-V.2	
ASSESSMENT DESCRIPTIONS					
<p>Informal assessments may be utilized such as observation with checklist and quizzes embedded in the vendor curriculum. Since most assessment items in network administration curricula are vendor specific and copyrighted, actual examples cannot be provided. Some suggested vendors are Cisco, Microsoft, and Comp-TIA.</p>					
OBJ. #	INSTRUCTIONAL STRATEGIES				
1-7	1. Teacher lectures and demonstrates troubleshooting procedures.				
1-7	2. Teacher guides student practice on troubleshooting procedures with the use of study guides.				
OBJ. #	INSTRUCTIONAL ACTIVITIES				
1-7	1. Students take notes on troubleshooting procedures.				
1-7	2. Students practice troubleshooting procedures.				
UNIT RESOURCES					
n/a					