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| **COURSE INTRODUCTION:****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.****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.** |

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| **UNIT DESCRIPTION:** **Students will learn to follow structured troubleshooting procedures.** | **SUGGESTED UNIT TIMELINE: 2 WEEKS****CLASS PERIOD (min.): 50 MINUTES** |
| **ESSENTIAL QUESTIONS:**1. Why follow a structured troubleshooting procedure?
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| **ESSENTIAL MEASURABLE LEARNING OBJECTIVES**  | **CCSS LEARNING GOALS (Anchor Standards/Clusters)** | **CROSSWALK TO STANDARDS** |
| **GLEs/CLEs** | **PS** | **CCSS** | **OTHER** | **DOK** |
| 1. Verify client access to network resources
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3COMM-I-A.1COMM-I-A.2COMM-I-A.3COMM-I-A.4COMM-I-B.1COMM-I-B.2COMM-I-B.3COMM-I-C.1COMM-I-C.2COMM-I-C.3COMM-I-C.4COMM-I-D.1COMM-I-D.2COMM-I-D.3COMM-I-D.4COMM-IV.1COMM-IV.2 | **2** |
| 1. Utilize existing technical resources for problem resolution (e.g., Internet, technical manuals, e-mail)
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3 | **3** |
| 1. Identify sources of electromagnetic and radio frequency interference
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10A-SSE.1A-SSE.2A-APR.1A-APR.7A-CED.1A-CED.3A-CED.4S-IC.1S-IC.2S-IC.3S-IC.4S-ID.1S-ID.2S-ID.3S-ID.4S-ID.5S-ID.6S-ID.7S-MD.5S-MD.6S-MD.7S-CP.1S-CP.5N-Q.1N-Q.2N-Q.3G-MG.1G-MG.2G-MG.3 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3 | **1** |
| 1. Use troubleshooting tools to determine problem areas
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10N-Q.1N-Q.2N-Q.3 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3MGMT-I-A.1MGMT-I-A.2MGMT-VIII-A.1MGMT-VIII-A.2MGMT-VIII-A.3MGMT-VIII-A.4MGMT-VIII-B.3COMM-I-A.1COMM-I-A.2COMM-I-A.3COMM-I-A.4COMM-I-B.1COMM-I-B.2COMM-I-B.3COMM-I-C.1COMM-I-C.2COMM-I-C.3COMM-I-C.4COMM-I-D.1COMM-I-D.2COMM-I-D.3COMM-I-D.4COMM-IV.1COMM-IV.2COMP-I.1COMP-II.1COMP-II.2COMP-III.1COMP-III.2COMP-IV.1COMP-IV.2COMP-V.2 | **3** |
| 1. Analyze system log files
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10A-SSE.1A-SSE.2A-APR.1A-APR.7A-CED.1A-CED.3A-CED.4S-IC.1S-IC.2S-IC.3S-IC.4S-ID.1S-ID.2S-ID.3S-ID.4S-ID.5S-ID.6S-ID.7S-MD.5S-MD.6S-MD.7S-CP.1S-CP.5N-Q.1N-Q.2N-Q.3 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3MGMT-I-A.1MGMT-I-A.2MGMT-VIII-A.1MGMT-VIII-A.2MGMT-VIII-A.3MGMT-VIII-A.4MGMT-VIII-B.3COMM-I-A.1COMM-I-A.2COMM-I-A.3COMM-I-A.4COMM-I-B.1COMM-I-B.2COMM-I-B.3COMM-I-C.1COMM-I-C.2COMM-I-C.3COMM-I-C.4COMM-I-D.1COMM-I-D.2COMM-I-D.3COMM-I-D.4COMM-IV.1COMM-IV.2CARDEV-III-A.1CARDEV-III-A.2COMP-I.1COMP-II.1COMP-II.2COMP-III.1COMP-III.2COMP-IV.1COMP-IV.2COMP-V.2 | **4** |
| 1. Perform and interpret diagnostics (both software and hardware)
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10A-SSE.1A-SSE.2A-APR.1A-APR.7A-CED.1A-CED.3A-CED.4S-IC.1S-IC.2S-IC.3S-IC.4S-ID.1S-ID.2S-ID.3S-ID.4S-ID.5S-ID.6S-ID.7S-MD.5S-MD.6S-MD.7S-CP.1S-CP.5N-Q.1N-Q.2N-Q.3 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3COMM-I-A.1COMM-I-A.2COMM-I-A.3COMM-I-A.4COMM-I-B.1COMM-I-B.2COMM-I-B.3COMM-I-C.1COMM-I-C.2COMM-I-C.3COMM-I-C.4COMM-I-D.1COMM-I-D.2COMM-I-D.3COMM-I-D.4COMM-IV.1COMM-IV.2COMP-I.1COMP-II.1COMP-II.2COMP-III.1COMP-III.2COMP-IV.1COMP-IV.2COMP-V.2 | **4** |
| 1. Troubleshoot software/hardware integration problems
 |  |  |  | RI11-12.1RI11-12.2RI11-12.3RI11-12.4RI11-12.5RI11-12.6RI11-12.7RI11-12.10SL11-12.1SL111-12.2SL11-12.3SL11-12.4SL11-12.5SL11-12.6L11-12.1L11-12.2L11-12.3L11-12.4L11-12.4L11-12.5L11-12.6RST11-12.1RST11-12.2RST11-12.3RST11-12.4RST11-12.5RST11-12.6RST11-12.7RST11-12.8RST11-12.9RST11-12.10WHST11-12.1WHST11-12.2WHST11-12.4WHST11-12.5WHST11-12.6WHST11-12.7WHST11-12.8WHST11-12.9WHST11-12.10A-SSE.1A-SSE.2A-APR.1A-APR.7A-CED.1A-CED.3A-CED.4S-IC.1S-IC.2S-IC.3S-IC.4S-ID.1S-ID.2S-ID.3S-ID.4S-ID.5S-ID.6S-ID.7S-MD.5S-MD.6S-MD.7S-CP.1S-CP.5N-Q.1N-Q.2N-Q.3 | IT-I.1IT-I.2IT-I.3IT-I.4IT-II.1IT-II.2IT-II.3IT-II.4IT-III.1IT-III.2IT-III.3IT-III.4IT-IV.1IT-IV.2IT-IV.3IT-IV.4IT-V.1IT-V.2IT-V.3IT-V.4IT-VIII.1IT-VIII.2IT-VIII.3IT-VIII.4IT-IX.1IT-X.3IT-X.4IT-XII.2IT-XII.3IT-XIV.1IT-XIV.2IT-XIV.3MGMT-I-A.1MGMT-I-A.2MGMT-VIII-A.1MGMT-VIII-A.2MGMT-VIII-A.3MGMT-VIII-A.4MGMT-VIII-B.3COMM-I-A.1COMM-I-A.2COMM-I-A.3COMM-I-A.4COMM-I-B.1COMM-I-B.2COMM-I-B.3COMM-I-C.1COMM-I-C.2COMM-I-C.3COMM-I-C.4COMM-I-D.1COMM-I-D.2COMM-I-D.3COMM-I-D.4COMM-IV.1COMM-IV.2COMP-I.1COMP-II.1COMP-II.2COMP-III.1COMP-III.2COMP-IV.1COMP-IV.2COMP-V.2 | **3** |
| **ASSESSMENT DESCRIPTIONS\*: (Write a brief overview here. Identify Formative/Summative. Actual assessments will be accessed by a link to PDF file or Word doc. )** **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.** **\*Attach Unit Summative Assessment, including Scoring Guides/Scoring Keys/Alignment Codes and DOK Levels for all items. Label each assessment according to the unit descriptions above ( i.e., Grade Level/Course Title/Course Code, Unit #.)** |
| **Obj. #** | **INSTRUCTIONAL STRATEGIES (research-based): (Teacher Methods)**  |
| 1-7 | 1. Teacher lectures and demonstrates troubleshooting procedures.
 |
| 1-7 | 1. Teacher guides student practice on troubleshooting procedures with the use of study guides.
 |
| **Obj. #** | **INSTRUCTIONAL ACTIVITIES: (What Students Do)** |
| 1-7 | 1. Students take notes on troubleshooting procedures.
 |
| 1-7 | 1. Students practice troubleshooting procedures.
 |
| **UNIT RESOURCES: (include internet addresses for linking)** |