COMPUTER REPAIR I

Revised August 2014

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I. COURSE DESCRIPTION

Computer Repair I is a full year study designed as a course to prepare the student for TestOut's PC Pro certification—a comprehensive, real-world study consisting of all concepts of hardware/peripherals, basic networking, security, Windows installation, maintenance, and troubleshooting, and mobile technologies. Moreover, students will learn how to spec PCs based on customer needs. Acquiring the PC Pro certification will qualify and allow students, should they choose, to pursue CompTIA’s A+ certification. This is the current industry standard certification.

This course is a culmination of knowledge obtained from installation, identification, and technological theories. By studying computer repair, the students will not only prepare themselves for the exam, but they will gain a competitive edge in the IT industry—having acquired a firm understanding of the technologies and theories that some PC technicians have abandoned from their educational arsenal. The student will also recognize current trends in the industry to better prepare them for future employment.

Students of Computer Repair will study and gain a complete understanding of the PC’s necessary components, installation, maintenance, basic electricity, preventive maintenance, and troubleshooting skills. They will also learn how to install and maintain current versions of Windows. They will implement a small network and manage basic settings. They will identify security threats and take preventative measures. The student will also learn how to speak the correct vernacular, as well as how to perform in a professional lab environment. The student will also use multimedia tools to create their portfolio for future employment opportunities.
II. Outline of Course

PCTI Curriculum Unit 1 Planner

<table>
<thead>
<tr>
<th>Content Area:</th>
<th>Computer Repair I</th>
<th>Grade(s)</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Plan Title:</td>
<td>Information Technology and the IT Professional</td>
<td>Time Frame</td>
<td>8 Weeks</td>
</tr>
</tbody>
</table>

Essential Questions (3-5)

1. What is Information Technology?
2. What are the main components of the computer?
3. What are the components and functions of an operating system?
4. What are the core concepts of professionalism for a PC Technician?

Anchor Text(s)


Informational Texts (3-5)

ARTICLES
Computer and Information Technology Occupations

A Brief History of Information Ethics
http://bid.ub.edu/13froel2.htm

What is cloud computing?
http://www.pcmag.com/article2/0,2817,2372163,00.asp

Basic functions of an Operating System

Binary Computer Code
**Expected Proficiencies/Career and Life Skills**
- Communicate professionally
- Demonstrate how a PC works
- Identify the components of a PC
- Navigate the Windows Interface
- Convert binary to decimal
- Handle a basic service call
- Troubleshoot a basic PC problem
- Implement safety measures
- Determine future trends in technology

**Writing Assessments (1-3)**
- Research careers and write about a type of career they may want to pursue in IT
- Write about the core components of an operating system and how they work together.
- Write up a basic troubleshooting scenario and how to solve it

**Resources**
- Testout’s LabSim
- Blackboard
- PowerPoint
- Microsoft Word
- Instructional Videos
- Wikis
- Total Seminars Practice Exam software
- Career search engines (i.e. Careerbuilder)
- Knowledgebases
- Technical forums
- Adobe Encore
- Microsoft Visio
# Unit Plan Title: The PC and its Peripherals

<table>
<thead>
<tr>
<th>Content Area:</th>
<th>Computer Repair I</th>
<th>Grade(s)</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Plan Title:</td>
<td>The PC and its Peripherals</td>
<td>Time Frame</td>
<td>10 Weeks</td>
</tr>
<tr>
<td>Essential Questions (3-5)</td>
<td>1. What are the main components and peripherals of the PC and their functions? 2. What are the steps for installing specific PC components and peripherals? 3. What are the essential characteristics and functions of a video subsystem? 4. How is storage managed in a PC? 5. What are the methods for managing and troubleshooting components and peripherals?</td>
<td></td>
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</tr>
<tr>
<td>Expected Proficiencies/Career and Life Skills</td>
<td>• Dismantle a PC  • Install RAM  • Install a CPU  • Install a power supply  • Test a power supply  • Configure BIOS settings  • Install a video card and monitor  • Configure dual monitors  • Install and configure a printer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Implement storage solutions
- Create mount points
- Install a device and its driver
- Set up network printing
- Ensure device compatibility
- Install a motherboard
- Troubleshoot device installation

**Writing Assessments (1-3)**

- Write about how to select a video card and matching monitor(s) given a specific scenario
- Make a brochure on effective products and methods to help cool the system
- Write about the future of plug and play and modular PCs
- Lab reports after performing lab exercises

**Resources**

- Testout’s LabSim
- Blackboard
- PowerPoint
- Microsoft Word
- Instructional Videos
- Wikis
- Total Seminars Practice Exam software
- Career search engines (i.e. Careerbuilder)
- Knowledgebases
- Technical forums
- Adobe Encore
- Microsoft Visio

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**PCTI Curriculum Unit 3 Planner**
**Unit Plan Title:** Mobile Devices, Networking, and Security

**Time Frame:** 10 Weeks

**Standard(s) Addressed**

9-10.RST.1, 9-10.RST.2, 9-10.RST.3, 9-10.RST.4, 9-10.RST.5, 9-10.RST.6, 9-10.RST.7, 9-10.RST.8, 9-10.RST.9
9-10.WHST.6, 9-10.WHST.8, 9-10.WHST.9

**Essential Questions (3-5)**

1. What components and configurations are required to install and maintain a network?
2. What steps are involved in getting computers on the Internet?
3. What are the essential methods in configuring and maintaining mobile devices?
4. What methods can be used to secure networks, users, and data?

**Anchor Text(s)**


**Informational Texts (3-5)**

**ARTICLES**

Privacy and the Surveillance Explosion

Social Engineering Risks
http://www.securitymanagement.com/article/social-engineering-risks-006084

**Expected Proficiencies/Career and Life Skills**

- Make a patch cable
- Configure IP settings
- Configure wireless settings
- Install and configure a SOHO network
- Configure methods to connect to the Internet
- Train users on security measures
- Test network connectivity using TCP/IP tools
- Replace laptop components
- Implement a security plan

**Writing Assessments (1-3)**
- Position paper on using technological surveillance on citizens
- Scripted social engineering attack and how it could have been prevented
- How-to manual for replacing laptop components
- Lab reports after performing lab exercises

<table>
<thead>
<tr>
<th>Resources</th>
</tr>
</thead>
</table>
| - Testout’s LabSim  
- Blackboard  
- PowerPoint  
- Microsoft Word  
- Instructional Videos  
- Wikis  
- Total Seminars Practice Exam software  
- Career search engines (i.e. Careerbuilder)  
- Knowledgebases  
- Technical forums  
- Adobe Encore  
- Microsoft Visio |
Unit Plan Title: System Implementation and Maintenance

Time Frame: 9 Weeks

Standard(s) Addressed:

9-10.RST.1, 9-10.RST.2, 9-10.RST.3, 9-10.RST.4, 9-10.RST.5, 9-10.RST.6, 9-10.RST.7, 9-10.RST.8, 9-10.RST.9, 9-10.RST.10
9-10.WHST.6, 9-10.WHST.8, 9-10.WHST.9

Essential Questions (3-5):

1. What are the considerations when building a PC for a client?
2. What are the steps for installing Windows from start to finish?
3. What are the tools and features used to manage files and folders?
4. What are the tools and utilities used to manage a Windows system?
5. What are some problems and solutions for troubleshooting PCs?

Anchor Text(s):


Informational Texts (3-5) [career-related readings; journal articles, books, etc]

ARTICLES

How to Build a Computer
http://www.wikihow.com/Build-a-Computer

The Pros and Cons of Using VDI

The Best Cloud Storage Services that Protect your Privacy
http://lifehacker.com/the-best-cloud-storage-services-that-protect-your-priva-729639300

Expected Proficiencies/Career and Life Skills

- Build a computer from scratch
- Customize component selection based on client needs
- Assess TCO for a system
- Backup and restore systems
- Manage users and groups
- Personalize Windows
- Manage a computer remotely
- Use tools, commands, and utilities to manage Windows
- Configure a virtual machine
- Prepare and install Windows in various environments
- Perform post-installation tasks
- Configure NTFS permissions for shared files and folders
- Master basic CLI commands
- Write a batch file
- Update Windows on a PC
- Troubleshoot PCs

### Writing Assessments (1-3)
- Proposal for a client on what type of PC to build based on needs
- Position paper on virtualization and whether or not they would use it
- Position paper on cloud storage solutions and which one they would choose and why
- Lab reports after performing lab exercises

### Resources (software, videos, career exploration-related activities)
- Testout’s LabSim
- Blackboard
- PowerPoint
- Microsoft Word
- Instructional Videos
- Wikis
- Total Seminars Practice Exam software
- Career search engines (i.e. Careerbuilder)
- Knowledgebases
- Technical forums
- Adobe Encore
- Microsoft Visio

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### III. Methods of Student Evaluation (assessment and evaluation)
Assessment in a vocational area can be divided into four general categories—formal (graded), informal (ungraded), certification, and practical application.

Formal Assessments:
- Multiple choice quizzes  
- Do Now quizzes  
- Research Simulated Tasks  
- Lab Reports  
- Oral presentations  
- Notebook checks  
- Tests

Some of the informal assessments include, *but are not limited to:*
- Daily closure discussion – At the end of each day, the instructor and students discuss the day’s topic and provide insight and ask questions  
- Blackboard sharing – Students are always working in groups. At the end of lab time, students are to exchange information, project data, lab reports, et al with their group members via Blackboard

Certification – The ultimate goal at the end of the year is to acquire certification. Currently, Computer Repair students will be taking the PC Pro certification provided by TestOut Corporation. While this certification is not yet industry standard, it does demonstrate a strong proficiency in their area and is honored by local employers. It also qualifies the student to pursue CompTIA’s A+ certification, the current de facto industry standard certification.

Practical application is the most important component to any vocational area. It demonstrates that a student can put the learned information into action by applying it in a real-world scenario. Some practical application assessments include, *but are not limited to:*
- Practical labs – Students will perform hands-on activities with the equipment based on a given set of instructions.  
- “The Techie” – Students will often be asked to fix a computer brought in by a faculty member.  
- Professional performance – While academics and discipline are separate entities, they are conjunctive in this shop because acting in a professional manner during lab is of paramount importance. Therefore, students will be assessed on their behavior in the lab.  
- Projects – There will be a project each marking period. Successful completion of the project demonstrates that the students can practically apply most (or all) of the unit’s concepts.
Students will be evaluated in accordance with general grading policies listed in the student handbook.

- Tests – 40%
- Quizzes – 20%
- Projects/Labs – 20%
- Participation – 10%
- Homework/Notebook – 10%

IV. Instructional Strategies Based on Instructional Goals

A combination of various instructional strategies will be used based on students’ learning styles and subject content. Such strategies include:

- Collaborating with teammates to complete labs and projects
- Reading and discussing current trends in the industry
- Watching instructional videos
- Performing hands on exercises in a real-world environment
- Performing lab simulation exercises akin to real-world scenarios
- Develop strategies to troubleshoot a computer problem
- Develop critical thinking skills
- Instructional delivery with PowerPoint presentations
- Providing supplement notes
- Review games
- Collaborative projects

V. Scope and Sequence
### SKILLS TO BE LEARNED

<table>
<thead>
<tr>
<th>Code</th>
<th>Skill</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1.12.A.1</td>
<td>Apply critical thinking and problem-solving strategies during structured learning experiences.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.1.12.A.2</td>
<td>Participate in online strategy and planning sessions for course-based, school-based, or outside projects.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.1.12.A.4</td>
<td>Justify problem-solving strategies used in the development of a particular innovative product or practice in the United States and in another country.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.1.12.B.3</td>
<td>Assist in the development of innovative solutions to an onsite problem by incorporating multiple perspectives and applying effective problem-solving strategies during structured learning experiences, service learning, or volunteering.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.1.12.C.4</td>
<td>Demonstrate leadership and collaborative skills when participating in online learning communities and structured learning experiences.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.1.12.E.2</td>
<td>Generate digital media campaigns in support of or opposing a current political, social, or economic issue.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.1.12.E.4</td>
<td>Predict the impact of emerging media technologies on international business and globalization.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.1.12.F.1</td>
<td>Explain the impact of current and emerging technological advances on the demand for increased and new types of accountability and productivity in the global workplace.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.1.12.F.2</td>
<td>Demonstrate a positive work ethic in various settings, including the classroom and during structured learning experiences.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.3.12.C.2</td>
<td>Characterize education and skills needed to achieve career goals, and take steps to prepare for postsecondary options, including making course selections, preparing for and taking assessments, and participating in extra-curricular activities.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.4</td>
<td>Use online resources to examine licensing, certification, and credentialing requirements at the local, state, and national levels to maintain compliance with industry requirements in areas of career interest.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.5</td>
<td>Identify transferable skills in career choices and design alternative career plans based on those</td>
<td>I, D</td>
</tr>
</tbody>
</table>

**Levels:**
- **I**: Introduce
- **D**: Develop
- **R**: Reinforce
- **M**: Master
<table>
<thead>
<tr>
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<th>Description</th>
<th>Levels</th>
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</thead>
<tbody>
<tr>
<td>9.3.12.C.6</td>
<td>Develop job readiness skills by participating in structured learning experiences and employment seeking opportunities.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.8</td>
<td>Interpret how changing economic and societal needs influence employment trends and future education.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.11</td>
<td>Evaluate the responsibilities of employers and employees for maintaining workplace safety, and explain health rights related to a particular occupation/career.</td>
<td>I, D, R, M</td>
</tr>
<tr>
<td>9.3.12.C.12</td>
<td>Determine the impact of past and/or recent lawsuits and/or court decisions regarding employment laws.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.20</td>
<td>Analyze employment trends by industry sector to determine how employment and training requirements change over time.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.23</td>
<td>Determine job entrance criteria (e.g., education credentials, math/writing/reading comprehension tests, drug tests) used by employers in various industry sectors.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.3.12.C.24</td>
<td>Analyze why employers use different interview techniques.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.4</td>
<td>Select and employ appropriate reading and communication strategies to learn and use technical concepts and vocabulary in practice.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.5</td>
<td>Demonstrate use of the concepts, strategies, and systems for obtaining and conveying ideas and information to enhance communication.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.7</td>
<td>Evaluate and use information resources to accomplish specific occupational tasks.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.8</td>
<td>Use correct grammar, punctuation, and terminology to write and edit documents.</td>
<td>I, D, R</td>
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<tr>
<td>9.4.12.K.15</td>
<td>Demonstrate how to develop positive customer relations to build and maintain a customer base in this cluster.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.16</td>
<td>Demonstrate how to perform scheduling functions to meet customer needs in this cluster.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.17</td>
<td>Employ critical thinking skills (e.g., analyze, synthesize, and evaluate) independently and in teams to solve problems and make decisions.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.20</td>
<td>Conduct technical research to gather information necessary for decision-making.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.21</td>
<td>Use information technology design processes and guidelines to produce a quality information technology product or service.</td>
<td>I, D, R, M</td>
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<tr>
<td>Code</td>
<td>Description</td>
<td>Suffixes</td>
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<tr>
<td>9.4.12.K.22</td>
<td>Implement problem-solving processes to evaluate and verify the nature of problems in this cluster.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.25</td>
<td>Operate electronic mail applications to communicate.</td>
<td>I, D, R</td>
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<tr>
<td>9.4.12.K.26</td>
<td>Operate Internet applications to perform tasks.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.28</td>
<td>Operate presentation applications to prepare and deliver presentations.</td>
<td>I, D, R</td>
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<tr>
<td>9.4.12.K.29</td>
<td>Employ spreadsheet applications to organize and manipulate data.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.36</td>
<td>Analyze and summarize the use of information technology to enhance business effectiveness.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.39</td>
<td>Demonstrate knowledge of personal and jobsite safety rules and regulations to maintain safe and healthful working conditions and environments.</td>
<td>I, D, R, M</td>
</tr>
<tr>
<td>9.4.12.K.41</td>
<td>Identify emergency procedures that are necessary to provide aid in workplace accidents.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.42</td>
<td>Identify response techniques to create a disaster and/or emergency response plan.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.43</td>
<td>Explain health, safety, and environmental management systems in organizations and their importance to organizational performance and regulatory compliance.</td>
<td>I, D, R</td>
</tr>
<tr>
<td>9.4.12.K.45</td>
<td>Employ leadership skills to accomplish goals and objectives.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.46</td>
<td>Employ organizational skills to foster positive working relationships and accomplish organizational goals.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.47</td>
<td>Employ teamwork skills to achieve collective goals and use team members’ talents effectively.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.54</td>
<td>Identify and demonstrate positive work behaviors and personal qualities needed to succeed in the classroom and/or to be employable.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.58</td>
<td>Demonstrate skills in evaluating and comparing employment opportunities in order to accept employment positions that match career goals.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.60</td>
<td>Identify and explore careers in one or more career pathways to build an understanding of the opportunities available in the cluster.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.61</td>
<td>Examine requirements for career advancement to plan for continuing education and training.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.62</td>
<td>Research professional development opportunities needed to keep current on relevant trends and information within the cluster.</td>
<td>I, D</td>
</tr>
<tr>
<td>9.4.12.K.63</td>
<td>Examine licensing, certification, and credentialing requirements at the national, state, and local levels</td>
<td>I, D</td>
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<tr>
<td>Code</td>
<td>Description</td>
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<tr>
<td>9.4.12.K.66</td>
<td>Employ information management techniques and strategies to assist in decision-making.</td>
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<tr>
<td>9.4.12.K.67</td>
<td>Employ planning and time management skills and tools to enhance results and complete work tasks.</td>
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<tr>
<td>9.4.12.K.68</td>
<td>Demonstrate knowledge of the hardware components associated with information systems.</td>
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<tr>
<td>9.4.12.K.70</td>
<td>Identify and compare new information systems trends and technologies to build an understanding of their potential influence on industry practices.</td>
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</tr>
<tr>
<td>9.4.12.K.71</td>
<td>Summarize basic data communications components and trends to maintain and update information technology systems.</td>
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<tr>
<td>9.4.12.K.72</td>
<td>Demonstrate technical knowledge of the Internet to develop and maintain information technology systems.</td>
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<tr>
<td>9.4.12.K.73</td>
<td>Access and use Internet services to service and update information technology systems and to complete other information technology tasks.</td>
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<tr>
<td>9.4.12.K.74</td>
<td>Install and configure software programs to maintain and update information technology systems.</td>
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<tr>
<td>9.4.12.K.76</td>
<td>Employ information technology knowledge and procedures when configuring or modifying an operating system to ensure optimal system functioning.</td>
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<tr>
<td>9.4.12.K.77</td>
<td>Perform standard computer backup procedures to protect information.</td>
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<tr>
<td>9.4.12.K.78</td>
<td>Recognize and analyze potential information technology security threats to develop and maintain security measures.</td>
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<tr>
<td>9.4.12.K.79</td>
<td>Maintain computer systems to ensure optimal functioning of information technology systems.</td>
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</tr>
<tr>
<td>9.4.12.K.(1).1</td>
<td>Identify and analyze an individual’s or a business organization’s network system needs and requirements to design a network.</td>
<td></td>
</tr>
<tr>
<td>9.4.12.K.(1).2</td>
<td>Analyze a network system to determine if it meets specifications.</td>
<td></td>
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<tr>
<td>9.4.12.K.(1).3</td>
<td>Design a network system using industry-specific technologies, tools, and standards to demonstrate a basic understanding of network architecture.</td>
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<tr>
<td>9.4.12.K.(1).4</td>
<td>Perform network system installation and configuration to launch a network system.</td>
<td></td>
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<tr>
<td>9.4.12.K.(1).5</td>
<td>Perform network administration and monitoring to maintain a network system.</td>
<td></td>
</tr>
<tr>
<td>9.4.12.K.(1).6</td>
<td>Perform network maintenance and user support services to maintain a network system.</td>
<td></td>
</tr>
</tbody>
</table>
| 9.4.12.K.80 | Provide support and training to maintain proper network functioning | I  
| 9.4.12.K.(2).1 | Perform user support to maintain service. | I, D, R  
| 9.4.12.K.(2).2 | Manage software systems to maintain and update service. | I, D, R  
| 9.4.12.K.(2).3 | Use hardware design, operation, and maintenance knowledge and skills to provide user support. | I, D, R  
| 9.4.12.K.(2).4 | Demonstrate and apply knowledge of operating system design, operation, and maintenance to provide informational support and perform service tasks | I, D, R  
| 9.4.12.K.(2).5 | Perform network administration and monitoring to maintain a network system. | I  
| 9.4.12.K.(2).6 | Employ knowledge of information system analysis and design to evaluate information systems. | I, D, R  
| 9.4.12.K.(2).7 | Employ system installation and maintenance skills when setting up and maintaining an information system to demonstrate application of fundamental system knowledge. | I, D, R  
| 9.4.12.K.(2).8 | Employ system administration and control skills to monitor an information system. | I, D, R  
| 9.4.12.K.(2).9 | Employ technical writing and documentation skills to keep records necessary for an information system. | I, D  
| 9.4.12.K.(2).10 | Identify and implement quality assurance processes to maximize information system operation. | I, D  
| 9-10.RST.1 | Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. | I, D  
| 9-10.RST.2 | Determine the central ideas or conclusions of a text; trace the text’s explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. | I, D  
| 9-10.RST.3 | Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases, or exceptions defined in the text. | I, D  
| 9.10.RST.4 | Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9—10 texts and topics. | I, D  

| 9-10.RST.5 | Analyze the structure of the relationships among concepts in a text, including relationships among key terms. | I, D |
| 9-10.RST.6 | Analyze the author’s purpose in providing an explanation, describing a procedure, or discussing the experiment in a text, defining the question the author seeks to address. | I, D |
| 9-10.RST.7 | Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words. | I, D |
| 9-10.RST.8 | Assess the extent to which the reasoning and evidence in a text support the author’s claim or a recommendation for solving a scientific or technical problem. | I, D |
| 9-10.RST.9 | Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts. | I, D |
| 9-10.RST.10 | By the end of grade 10, read and comprehend science/technical texts in the grades 9—10 text complexity band independently and proficiently. | I, D |
| 9-10.WHST.6 | Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically. | I, D |
| 9-10.WHST.8 | Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation. | I, D |
| 9-10.WHST.9 | Draw evidence from informational texts to support analysis, reflection, and research | I, D |
VI. **Computer Repair I Proficiencies Handout**

**COURSE DESCRIPTION**

Computer Repair I is a full year study designed as a course to prepare the student for TestOut's PC Pro certification—a comprehensive, real-world study consisting of all concepts.
of hardware/peripherals, basic networking, security, Windows installation, maintenance, and troubleshooting, and mobile technologies. Moreover, students will learn how to spec PCs based on customer needs. Acquiring the PC Pro certification will qualify and allow students, should they choose, to pursue CompTIA’s A+ certification.

This course is a culmination of knowledge obtained from installation, identification, and technological theories. By studying computer repair, the students will not only prepare themselves for the exam, but they will gain a competitive edge in the IT industry—having acquired a firm understanding of the technologies and theories that some PC technicians have abandoned from their educational arsenal. The student will also recognize current trends in the industry to better prepare them for future employment.

Students of Computer Repair will study and gain a complete understanding of the PC’s necessary components, installation, maintenance, basic electricity, preventive maintenance, and troubleshooting skills. They will also learn how to install and maintain current versions of Windows. They will implement a small network and security. The student will also learn how to speak the correct vernacular, as well as how to perform in a professional lab environment. The student will also use multimedia tools to create their portfolio for future employment opportunities.

**PROFICIENCIES**

A. Demonstrate how to work safely in professional environment.
B. Use resources to examine trends, certifications, and careers.
C. Demonstrate the parts of the PC and their functions.
D. Properly install and configure PC components.
E. Install, configure, and maintain a Windows operating system.
F. Build a computer from scratch.
G. Customize component selection based on client needs.
H. Configure a virtual machine.
I. Manage files and folders.
J. Configure NTFS permissions.
K. Implement storage solutions.
L. Install and configure printers.
M. Troubleshoot device installation.
N. Configure mobile devices.
O. Install and configure a SOHO network.
P. Test network connectivity using TCP/IP tools.
Q. Demonstrate how to protect a PC from malware.
R. Configure wireless settings.
S. Configure methods to connect to the Internet.
T. Train users on security measures.
U. Implement a security plan.
V. Develop a troubleshooting approach.