## Wallenpaupack Area School District

**Wallenpaupack Area High School**
**Course Title:** A+ Microcomputer Certification Prep
**Length of Course:** 1 semester

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### District Policies:

***Academic Integrity:***
Academic integrity is essential to the success of an educational community. Students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism, multiple submissions and other forms of dishonest or unethical behavior, is prohibited.

***Assessment:***
The goal of grading is to report student progress and achievement to the parents to strengthen the home-school connection. The grade should accurately reflect the student's performance in mastering the PA Standards and the WASD curriculum.

***Attendance:***
Regular school attendance is vitally important to academic success. Not only does attendance reinforce and enrich the learning process; it also establishes patterns and attitudes that will carry forward into adult work habits. Regular, consistent attendance is a prerequisite to successful school life. Children should be absent only in cases of illness or emergency.

***Special Education:***
Our commitment to each student is to ensure a free appropriate public education which begins with the general education setting, with the use of Supplementary Aids and Services. Inclusive education describes the successful education of all students with the appropriate supports and services to participate in and benefit from the general classroom settings and other educational environments.

**Course Description:** The course will build on students' existing user-level knowledge and experience with personal computer software and hardware to present fundamental skills and concepts used in industry. In this course, you will acquire the essential skills and information you will need to install, upgrade, repair, configure, troubleshoot, optimize, and perform preventative maintenance of basic personal computer hardware and operating systems.

### Pennsylvania State Standards:

***Science and Technology Education***

**3.7.12.A:** Apply advanced tools, materials and techniques to answer complex questions.
**3.7.12.C:** Evaluate computer operations and concepts as to their effectiveness to solve specific problems.
**3.7.12.D:** Evaluate the effectiveness of computer software to solve specific problems.
**3.7.12.E:** Assess the effective of computer communications systems.

***Reading, Writing, Speaking, and Listening***

**1.6.9.B:** Demonstrate awareness of audience using appropriate volume and clarity in formal speaking presentations.
**1.8.9.B:** Conduct inquiry and research on self-selected or assigned topics, issues, or problems using information from a variety of sources and document sources by using a consistent format for citations.
Organize information logically as it relates to research topic.
Evaluate information sources for relevance and credibility.
**1.9.9.A:** Use media and technology resources for research and problem solving in content learning.
**1.9.9.B:** Analyze the techniques of media messages to evaluate how they influence society.

***Mathematics***

**2.5.11.B:** Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.

***Career Education and Work***

**13.1.11.A:** Relate careers to individual interests, abilities, and aptitudes.
**13.1.11.B:** Analyze career options based on personal interests, abilities, aptitudes, achievements and goals.
**13.1.11.D:** Evaluate school-based opportunities for career awareness/preparation

*Updated: September 2013*

**Wallenpaupack Area School District – Technology Literacy Standards**

**Standard 1:** Demonstrate proficiency in the use of computer and applications, as well as an understanding of the concepts underlying hardware, software and connectivity.

**Standard 2:** Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school and in society.

**Standard 3:** Demonstrate the ability to use technology for research, critical thinking, problem solving, decision making, communication, collaboration, creativity and innovation.

**Major Activities to Support Course Objectives:**

- Build a desktop Personal Computer
- Modify a Personal Computer to adapt to a specific environment and or task role.
- Troubleshoot various problems with various systems.
- Conceive a common troubleshooting methodology for a wide array of PC repair situations.
- Install and configure expansion modules for specific use and or function.
- Dissect and study common peripherals.
- Study questions and tasks common to the Comp Tia A+ Microcomputer Technician certification exam.

**Student Responsibilities:**

All students will complete all projects, labs, and assessments. Failure to do so will result in grade degradation.

***Homework expectations:***
Any homework assigned will be completed as necessary.

**Make-Up work:**
Any makeup work will completed as necessary.

**Late work:**
Late work will only be accepted as specified by IEP's, 504 plans, etc.

**Assessment:**

***Grading components:***

*Written Assessments (Exams / Quizzes)*

*Class Labs*

*Projects / Presentations*

*Updated: September 2013*

**Content Pacing Guide:**

| Topic | Major Assignments | Estimated Time |
|---|---|---|
| Introducing Hardware | Components, I/O Devices, System Board, Storage Devices, Processor & Chipset, Expansion Cards, Electrical system | 2 |
| Form Factors, Power Supplies | Cases, Motherboards, Types of form factors, Measures of Electricity, Power Supplies, Electrical Dangers, ESD, Working inside a PC, Support Tech. tools, troubleshooting electrical systems | 1 |
| Motherboards | Identify types and features, Configure BIOS, Configure hardware, identify the chipset, identify expansion slots, configure motherboard | 2 |
| Supporting Processors | Identify characteristics of processors, study cooling methods, select processors, install a processor, troubleshoot motherboards, fix overheating problems, cure boot problems | 1 |
| Upgrading memory | Identify technologies, upgrade memory, identify memory types, troubleshoot memory problems | 1 |
| Supporting Hard Drives | Dissect hard drives, identify interface standards, configure RAID, install hard drives, troubleshoot hard drive problems | 2 |
| Installing & Supporting I/O Devices | Identify types and features of devices, install input devices, configure I/O devices, install adapter cards, troubleshoot I/O devices | 2 |
| Multimedia Devices and Mass Storage | Configure multimedia adapter cards, study optical storage media, identify removable storage types, configure multimedia peripherals, troubleshoot multimedia devices | 2 |
| PC Maintenance and Troubleshooting Strategies | Identify operational procedures, practice safety procedures, identify preventative maintenance issues, troubleshoot common problems | 2 |
| Networking Essentials | Identify network types, study networking hardware, configure Windows based LAN, practice network troubleshooting concepts, connect to remote computer | 2 |
| Supporting Notebokes | Identify considerations for supporting notebooks, work with diagnostic tools, support peripherals, troubleshoot common problems, replace components | 1 |
| Supporting Printers | Identify printer types and features, install and share a printer, configure printers through Windows, maintain and service a laser printer, troubleshoot printer problems | 1 |