BASIC COMPUTER TECHNOLOGY (A PLUS)

A. **Course Description**:

A+ is an industry-standard certification course that is required for anyone desiring to work in the area of computer repair or technical support. Topics covered in this course will include basic PC architecture, peripheral devices, MS_DOS, Windows 3.x and Windows 9x operating systems, basic troubleshooting and repair.

General requirements. This course will be offered to students in Grades 9-12.

Introduction. Students apply skills needed to troubleshoot, repair and build PC computers.

Knowledge and Skills

(1) The student analyses various types of configurations and upgrading. The student is expected to:
   A) Identify basic terms, concepts and functions of system modules
   B) Demonstrate basic procedures for adding and removing field replacable modules
   C) Compare and contrast available IRQs, DMAs, and I/O addresses and procedures for configuring them for device installation
   D) Examine common peripheral ports, associated cabling, and their connectors
   E) Demonstrate procedures for installing and configuring IDE/EIDE devices, SCIS devices, and peripheral devices
   F) Identify concepts and procedures relating to BIOS
   G) Analyze hardware methods of system optimization and when to use them

(2) The student develops the technology skills to diagnose, repair, and maintain computer systems. The student is expected to:
   A) Analyze common symptoms and problems associated with each module and isolate the problem
   B) Compare and contrast procedures and devices for protecting against environmental hazards and required special disposal procedures
   C) Examine the potential hazards and proper safety procedures relating to lasers and high-voltage equipment
   D) Outline and discuss ESD (Electrostatic Discharge) precautions and procedures
   E) Distinguish between the popular CPU chips in terms of their basic characteristics
   F) Investigate the most popular type of motherboards, their components, and their architecture
   G) Summarize the purpose of CMOS, what it contains and how to change its basic parameters
   H) Discuss the categories of RAM terminology, their locations, and physical characteristics

(3) The student develops technology skills to manage printers, portable systems and networks. The student is expected to:

A) Explain and demonstrate the basic concepts of printers, printer operations, and printer components
B) Investigate the types of printer connections and configurations
C) Outline and discuss the exclusive components of portable systems and their unique problems
D) Analyze the basic networking concepts, including how a network operates
E) Demonstrate procedures for swapping and configuring network interface cards
F) Explain the ramifications of repairs on the network.

B Rationale and Justification

C. Description of Activities, Resources, and Materials

D. Methods of Evaluating Student Outcomes

E. Qualifications of Teacher

Teachers teaching the A PLUS course must:

1) hold a valid secondary certificate (any area)
2) demonstrate sufficient technology proficiencies (deemed necessary by the local district) to enroll in training to teach the course
3) upon completion of the training (by the appropriate organization), the district will ensure the teachers have appropriate technology knowledge and skills to teach the course

F. Amount of credit requested

Students will be able to complete the course requirements within one semester. The students completing the course and passing the teacher prepared assessment will be awarded one half (1/2) credit.

G. School years for which approval is requested