COURSE INFORMATION FORM

DISCIPLINE  Computer Science and Information Systems
COURSE TITLE  Computer Hardware, Maintenance, and Troubleshooting
CR.HR  3  LECT HR.  2  LAB HR.  2  CLIN/INTERN HR.  _______  CLOCK HR.  _______

CATALOG DESCRIPTION
This course introduces the student to maintenance, upgrading, setup, and expansion of personal computer hardware. Students will explore microcomputer architecture, functions, and components as well as methods and procedures for installation, troubleshooting, and modifications of computer systems. This course helps students prepare for the first of two tests required for the current CompTIA A+ Certification.

PREREQUISITES
CSIS 110 with a grade of C or better

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:
1. Describe and apply computer hardware fundamentals.
2. Describe and apply basic network configuration and troubleshooting.
3. Describe and apply troubleshooting methods related to various components.
4. Describe printer maintenance.
5. Describe laptop and mobile device maintenance.
6. Demonstrate proper safety, operational procedures, and professionalism.

GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.
PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Use industry specific software and/or apply troubleshooting skills to solve problems.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Examination/Quizzes (1-6)
2. Class Discussion/Participation (1-6)
3. Exercises/Projects (1-6)
4. Written/Oral Reports (1-6)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Computer Hardware
   A. BIOS settings
   B. Motherboard components, their purposes, and properties
   C. RAM types and features
   D. Expansion cards
   E. Storage devices
   F. CPU types, features, and cooling
   G. Connection interfaces
   H. Power supplies
   I. Custom configurations
   J. Display devices
   K. Cables and connectors
   L. Peripheral devices

II. Networking
   A. Network cables and connectors
   B. TCP/IP basics
C. Common TCP and UDP ports, protocols, and their purpose
D. Wireless networking standards and encryption types
E. SOHO networks
F. Internet connection types and features
G. Network devices, functions, and features
H. Networking tools

III. Laptops
   A. Laptop hardware and components *
   B. Laptop displays
   C. Laptop features

IV. Printers
   A. Printer types and imaging process
   B. Install and configure printers *

V. Operational Procedures
   A. Safety procedures
   B. Environmental controls and impact
   C. Communication and professionalism
   D. Dealing with prohibited content/activity