

EET-1015: INTRODUCTION TO COMPUTER MAINTENANCE AND REPAIR

Cuyahoga Community College

Viewing: EET-1015 : Introduction to Computer Maintenance and Repair

Board of Trustees:

2015-05-28

Subject Code

EET - Electrical/Electronic Engineer

Course Number:

1015

Title:

Introduction to Computer Maintenance and Repair

Catalog Description:

Introduction to the field of personal computer maintenance and repair. Overview of hardware and software components associated with personal computer systems. Survey of techniques and methods used by technicians to maintain, repair, troubleshoot and upgrade personal computers. Coverage of both interpersonal as well as technical abilities necessary for success in this industry. Survey of the history and evolution of the personal computer.

Credit Hour(s):

3

Lecture Hour(s):

3

Requisites

Prerequisite and Corequisite

IT-1090 Computer Applications or concurrent enrollment.

Outcomes

Course Outcome(s):

Apply knowledge of computer hardware and software.

Objective(s):

1. Define microcomputer functions and associated terminology.
2. Explain the fundamental techniques for hardware troubleshooting using a systematic approach to problem identification, problem isolation, and the development of a sound course of action.
3. Identify hardware components of a microcomputer, including input, output, processing, storage, and peripheral devices.
4. Identify software components of a microcomputer.

Course Outcome(s):

Apply technical knowledge of the computer service and support industry when working as a computer support specialist.

Objective(s):

1. Explain the importance of the IBM Open Architecture Model
2. Explain the historical developments in computer use in the home and business markets.
3. Explain the growing need for computer technical service and support specialists.

Course Outcome(s):

Utilize effective communication, interpersonal skills, ethical and professional behavior when providing support to computer users.

Objective(s):

1. Explain the importance of listening and communication skills

2. Discuss the need to be professional in both verbal and nonverbal communication
3. Discuss the importance of customer service and user satisfaction

Course Outcome(s):

Utilize information resources when working as a computer support professional.

Objective(s):

1. Describe use of various resources to research hardware and software problems, in addition to keeping up-to-date on changes in technology.
2. Discuss the importance of using Internet sites, newsgroups, listservs, and chatrooms in providing support for technical support for computers and users.
3. Identify effective search strategies and techniques.
4. Discuss the importance and availability of continuing education.

Course Outcome(s):

Understand personal computing history and market evolution to help predict emerging trends.

Objective(s):

1. Explain the importance and influence of the evolution of the Personal Computer.
2. Identify market trends that are important when considering future technology adoptions.
3. Discuss the impact of past, present and future trends in the technology marketplace.

Methods of Evaluation:

1. Class participation
2. Assignments
3. In-Class and online examinations
4. Knowledge and Skills Based Examinations

Course Content Outline:

- A. Basic introduction to the personal computer
 1. Microcomputer definition
 2. Functions
 3. Associated terminology
- B. Hardware components of a microcomputer
 1. Input
 2. Output
 3. Processing
 4. Storage
 5. peripheral devices
- C. Software components of a microcomputer
 1. Operating System
 2. Application
- D. Introduction to personal computer history and evolution
 1. Historical perspective of developments in computing technologies.
 2. Growing use of technology and the need for computer service and user support specialists
- E. Specific hardware devices and their function at the component level
 - The system board (motherboard)
 - Microprocessors
 - Ram
 - Rom
 - Bios
 - CMOS
 - Bus
 - Expansion slots

- Sound
 - Video
 - Hard disk drives
 - Floppy disk drives
 - CD-ROM and DVD-ROM (and writers)
 - Power supplies
 - Safety
 - File Extensions
 - Printer types
- F. ASCII
- Binary to Text conversions
- G. Emerging technologies
- Definition
 - Implementation
 - Technical support
- H. Basic troubleshooting skills and procedures
1. Fundamental rules for hardware troubleshooting
 2. Systematic approach to problem identification
 3. Problem isolation
 4. Development of course of action
- J. Information resources for the technical support professional
1. Internet websites, newsgroups, technical forums
 2. On-line/interactive help systems
 3. Databases
 4. Professional journals and print publications
 5. Technical documentation
 6. Vendor information and white papers
 7. Effective search strategies and techniques
 8. Professional organizations and personal networking
 9. Continuing education
- K. Total Cost Analysis of PC systems and peripherals
- L. Identification of various modern printer types and associated uses
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Resources

Andrews, J. *A+ guide to managing and maintaining your PC*. 8th. Boston:Course Technology, 2012.

Meyers, M. *Mike Meyer's CompTIA A+ guide to managing and troubleshooting PCs*. 4th. NY:McGraw Hill, 2013.

Beisse, F. *A guide to computer user support for help desk and support specialists*. 5th. Boston:Course Technology, 2013.

Andrews, et al. *A+ Guide to Technical Support*. 10th. Boston, MA : Cengage, 2017. 2017.

Resources Other

<http://www.compTIA.org>

<http://www.ieee.org>

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