

Revised 10/99

NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY

ETR 285 - FUNDAMENTALS OF MICROCOMPUTER REPAIR (4 CR.)

COURSE DESCRIPTION

Provides the student with an exposure to the various techniques and procedures used to troubleshoot a microcomputer. May include an overview of a particular microprocessor system, use of isolation flow charts, test points charts, prints, diagnostic routines, component testing and fault isolation labs. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

GENERAL COURSE PURPOSE

To provide a basic understanding of the components contained in a typical microcomputer system.
To provide knowledge of troubleshooting techniques used in repairing microcomputer systems.

ENTRY LEVEL COMPETENCIES

The prerequisites or corequisites are ETR 158 - "Electronic Circuits for Computers" and IST 117 – "Introduction to Microcomputer Software".

COURSE OBJECTIVES

Upon completion of the course, the student should be able to troubleshoot an IBM PC or compatible to its least repairable module.

MAJOR TOPICS TO BE INCLUDED

LECTURE

- A. Power-on self test
- B. Power supply circuit
- C. Keyboard
- D. Display controller
- E. Disk controller
- F. Printer controller
- G. System board
- H. CPU chip
- I. RAM/ROM

LABORATORY

- A. Power-on self test and diagnostic disk
- B. Power supply failure
- C. Keyboard failure
- D. Display board failure
- E. Disk drive controller board failure
- F. Printer adaptor board failure
- G. RAM failure
- H. System clock failure
- I. ROM Failure