

ELEI 218

TROUBLESHOOTING ANALOG SYSTEMS

3 Semester Hours

The Community College of Baltimore County

Description

Troubleshooting Analog Systems

Discusses troubleshooting and repair of analog electronic systems and sub-systems to the lowest repairable module using a variety of test equipment; demonstrates specific methods emphasizing reading and use of equipment documentation to find faults. Two hours of lecture and one two-hour lab per week one semester.

Prerequisite: ELEI 205 Microprocessors and Micro-computers, ELEI 215 Communications Electronics or consent of the instructor

Overall Course Objectives.

Upon completion of this course the student will be able to:

Understand the documentation and test equipment used in troubleshooting electronic systems. Understand the various methods and ways to troubleshoot a piece of electronic equipment. Demonstrate in a laboratory setting the use of documentation and test equipment in the troubleshooting of actual equipment in need of repair.

Major Topics

The various kinds of electronic problems, poor performance, complete failure, Intermittent, transient,overheated part failures, hum and distortion problems, noisy controls, operator induced problems, multiple problems. General troubleshooting techniques, live circuit testing, D.C. voltage measurements, how to trace signals, analog signal tracing, digital signal tracing, localizing the problem to a specific area, substitution of suspected part as a troubleshooting technique. Repairing the problem, where to get parts, replacing parts, aligning the equipment, final testing.

Course Requirements

The instructor will administer Exams (60%), Laboratory assignments (30%), Homework assignments (10%).

Other Course Information

Additional Information about this course or any other Industrial electricity/electronics course can be obtained by contacting the IEE/Telecommunications Program Director.