

J. Sargeant Reynolds Community College
Course Content Summary

Course Prefix and Number: ETR 204

Credits: 4

Course Title: Electronic Devices II

Course Description (including lecture hours, lab hours, total contacts)

Studies active devices and circuits such as diodes, power supplies, transistors, amplifiers and others. Prerequisite: Knowledge of D.C. and A.C. theory. Part II of II. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

This was a required course in the Electronics Technology AAS degree program. That program has been discontinued and will be undergoing its teach out phase in 2009 and following.

Course Prerequisites/Corequisites (*Entry-level competencies **required** for enrollment*)

Prerequisites: Knowledge of D.C. and A.C. theory; ETR 203 or equivalent.

Course Objectives (Each item should complete the following sentence.)

Upon successful completion of the course, the student will be able to:

- a. analyze and measure amplifier frequency response.
- b. analyze and troubleshoot thyristor circuits.
- c. analyze and troubleshoot differential amplifier circuits.
- d. analyze and troubleshoot operational amplifier circuits.
- e. analyze and troubleshoot comparator circuits.
- f. analyze and troubleshoot oscillator circuits.
- g. analyze and troubleshoot regulator circuits.

Major Topics to be Included

- a. Determining low and high cutoff frequencies in amplifiers
- b. Thyristor device characteristics and circuits
- c. Differential amplifier operation and circuits
- d. Basic operational amplifier circuits
- e. Special operational amplifier circuits
- f. Comparator circuits
- g. Low and high frequency oscillator circuits
- h. Linear voltage regulators
- i. Switching voltage regulators
- j. Troubleshooting

Effective Date of Course Content Summary: May 2009