

Piedmont Technical College Course Syllabus

COURSE INFORMATION

Course Prefix/Number: EEM 200

Title: Semiconductor Devices

Responsible Division: Engineering and Industrial Technologies

Last Day to Withdraw from this Course: For the last date to withdraw from this course, consult the current *Student Calendar*.

Course Description:

For course, credit hour, pre-requisite(s) and co-requisite(s) information, visit the Detailed Course Information page: www.ptc.edu/courses/EEM200.

Textbook and Other Materials:

For textbook information and additional required and/or supplemental materials, visit the [college bookstore](http://www.ptc.edu/bookstore) (www.ptc.edu/bookstore).

Proctored Examinations:

Proctored examinations for distance learning courses taken at non-PTC campuses may require a proctoring fee for each exam taken.

COURSE POLICIES

Course policies are available online through the *Academic Catalog* and *Student Handbook*. Visit the [Course Policies page](http://www.ptc.edu/syllabus/policies) (www.ptc.edu/syllabus/policies) for a detailed list of important policies and more information.

GRADE POLICY

Detailed grading policy information can be found on the [Grading Policy webpage](http://www.ptc.edu/grading-policy) (http://www.ptc.edu/grading-policy). Final grade appeal information is available in the [Academic Catalog](http://www.ptc.edu/catalog/) (http://www.ptc.edu/catalog/).

ACCOMMODATIONS

Accommodations for ADA:

Information is available on the [Student Disability Services webpage](http://www.ptc.edu/ada) (<http://www.ptc.edu/ada>).

RATIONALE

Why do I need this course?

This is an introductory course to the field of electronics. Items covered in this course are the building blocks for all electronic circuits. Without an understanding of these fundamentals, the potential technician would not be able to effectively troubleshoot and repair electronic equipment found in industry. The student will begin to see how the direct and alternating current fundamentals along with active devices are put together to perform useful jobs in power supplies and amplifiers.

PROGRAM INFORMATION

For program information including required courses, program learning outcomes, gainful employment information and advisement information, refer to the Academic Program webpage. Go to [Academics](http://www.ptc.edu/academics) (<http://www.ptc.edu/academics>), select your program, and then select Credentials Offered.

COURSE STUDENT LEARNING OUTCOMES

Upon successful completion of this course and/or clinical, each student will be able to:

- Test, analyze and troubleshoot diode circuits including half and full wave rectifiers, as well as Zener diodes.
- Identify, describe and perform basic calculations for a Bipolar Junction Transistor.
- Explain a basic operational amplifier and explain its' basic characteristics.
- Contrast the operation of a non-inverting, inverting and voltage follower operational amplifier.
- Design a summing amplifier.
- Give examples of how thyristors control current flow.

GENERAL EDUCATION COMPETENCIES

Piedmont Technical College General Education Competencies for All Graduates:

This course may address one or more of the following General Education Competencies (assessment will be stated when applicable):

Communicate effectively.

Assessment:

N/A

Apply mathematical skills appropriate to an occupation.

Assessment

Performing course specific calculations.

Employ effective processes for resolving problems and making decisions.

Assessment:

N/A

Demonstrate the basic computer skills necessary to function in a technological world.

Assessment:

Completing D2L course work.

To validate proficiency in the general education competencies, students in some programs will be tested using Work Keys.