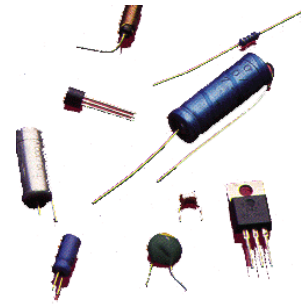


HUDSON COUNTY COMMUNITY COLLEGE
Science, Technology, Engineering & Mathematics
Electronics Engineering Technology



Course Title: EET 212-01; Active Electronics Devices

Credits: 4

Schedule:

Faculty:

Office Hours:

This Kit includes a detailed Syllabus for the **Active Electronics Devices** course as well as the schedule of examinations and laboratory assignments for the semester.

Text: Electronic Principles; 9th Edition; Author “Albert Malvino and David Bates and Patrick Hoppe”, McGraw-Hill

ISBN: 1259852695; Copyright 2021

Course Objectives: *This course is an introduction to solid state devices with emphasis on device terminal characteristics and models. The course includes the PN junction diode; zener diode; rectifier circuits; filter circuits; clipper and clamper circuits; bipolar junction transistor characteristics; BJT models; BJT small signal amplifiers.*

Laboratory experiments cover: semiconductor diode circuits; half-wave rectifier; full-wave rectifier; diode clipper and clampers; the zener diode and circuit application; the common-base transistor characteristics; the common-emitter transistor characteristics; and the parameters and components of a transistor amplifier circuit.

Attendance Policy: Attendance is obligatory for all students. Students are responsible for the material covered in the class session for which they have missed. Three or more absence may result in failure of the course. Students are expected to arrive to class on time.

Homework: Homework will be assigned regularly and discussed in the class in the following session.

Exams: There will be four scheduled quizzes, midterm a comprehensive Final Exam.

Lab Work: There will be a series of laboratory experiments to be performed on a timely basis. A technical laboratory report is required for each of the experiments. Each group will be required to make an oral presentation for one of the experiment.

Grading Policy: The final grade on the course will based on the following components:
Quizzes 20%, Midterm Exam 10%, Lab work 15%, Lab reports 20%, Oral presentations 5%,
Final Exam 15%, Homework 10%, and Class Participation 5%

Grading Scale: 92-100 = A, 88-91 = A-, 85-87 = B+, 82-84 = B, 78-81 = B-, 74-77 = C+, 64-73 = C, 58-63 = D, 0-57 = F.

Make Up Exams: In case the student is absent for a test due an emergency. It is the student’s responsibility to contact me as soon he/she returns to school and supply me with a legitimate excuse.

Disability Support

Students with disabilities who believe that they might need accommodations in this class are encouraged to contact the office of Disability Support Services at (201) 360-4157, as soon as possible to better ensure that such accommodations are implemented in a timely fashion. All disabilities must be documented by a qualified professional such as a Physician, Licensed Learning Disabilities Teacher Consultant (LDTC), Psychiatrist, Psychologist, Psychiatric Nurse, Licensed Social Worker or Licensed Professional Counselor, who is qualified to assess the disability that the student claims to have and make recommendations on accommodations for the student. All information provided to the Disability Support Services Program will be confidential between the program, professors involved with the student and individual student.

Academic Integrity

Academic integrity is central to the pursuit of education. For students at HCCC, this means maintaining the highest ethical standards in completing their academic work. In doing so, students *earn* college credits by their honest efforts. When they are awarded a certificate or degree, they have attained a goal representing genuine achievement and can reflect with pride on their accomplishment. This is what gives college education its essential value.

Violations of the principle of academic integrity include:

- Cheating on exams.
- Reporting false research data or experimental results.
- Allowing other students to copy one's work to submit to instructors.
- Communicating the contents of an exam to other students who will be taking the same test.
- Submitting the same project in more than one course, without discussing this first with instructors.
- Submitting *plagiarized* work. *Plagiarism* is the use of another writer's words or ideas without properly crediting that person. This unacknowledged use may be from published books or articles, the Internet, or another student's work.

Violations of Academic Integrity

When students act dishonestly in meeting their course requirements, they lower the value of education for all students. Students who violate the college's policy on academic integrity are subject to failing grades on exams or projects, or for the entire course. In some cases, serious or repeated instances of academic integrity violations may warrant further disciplinary action.

Violations reported to the Division Dean or Vice President of Student Affairs

Depending on the severity of the violation(s), the division dean will determine whether further disciplinary action is warranted. The Vice President of Student Affairs assists Academic Affairs in maintaining a high level of academic integrity on the campus. The Dean works with the faculty and division deans to educate students about academic dishonesty and to adjudicate disciplinary cases in which there are suspected violations of College policies. Should a violation(s) of HCCC academic integrity standards warrant a disciplinary hearing with the Vice President of Student Affairs, sanctions may include suspension, expulsion, or other measures deemed appropriate.

Hudson County Community College Classroom Recording Policy

Student Classroom Recording Policy

- Hudson County Community College prohibits the audio-visual recording, transmission, and distribution of classroom sessions. Classes may only be recorded with the advance written permission of the instructor. The Hudson County Community College classroom recording policy must be listed in all syllabi.
- All classroom recordings can only be used for academic purposes by students enrolled in that class. Recordings may not be shared, reproduced, or uploaded to public websites or other mediums, and these recordings may contain copyrighted material and are prohibited from any form of commercial use.
- All students and guests must be informed that the class may be recorded. Due to issues related to privacy and the possible inhibition of student participation, instructors should be mindful of the effects of permitting classroom recording.
- Instructors should retain electronic or paper copies of their written consent to grant classroom recordings.
- Students must destroy their recordings at the end of the semester.
- Students who are granted permission to record their class by the office of Disability Support Services should inform the instructor beforehand and are subject to the policies outlined in this document.
- Violation of this policy is subject to disciplinary action listed under the code of conduct as included in the Student Handbook.

Instructor Classroom Recording Policy

- Instructors may record their classes as long as students are informed in writing in advance that recording will take place. Instructors may distribute their own lectures, but this must be limited to the lecture portion of the class. Recordings of student presentations or activities may be used in the class if the students are notified in advance of the recording. Recordings of student presentations or activities may not be distributed in any way without the advance written consent of the students.

Hudson County Community College prohibits the audio-visual recording, transmission, and distribution of classroom sessions. Classes may only be recorded with the advance written permission of the instructor. The complete classroom recording policy is listed in the student handbook.

HUDSON COUNTY COMMUNITY COLLEGE

Electronics Engineering Technology Program

Active Electronics Devices “9th edition”

Week #1:

Lecture: Chapter 1, Introduction
 HW; Page 26 #1, 3, 6, 7, 11, 13, 17, and 21
 Lab: Problem Solving Session and Lab Orientation

HW is due week #2
 No Report

Week #2:

Lecture: Chapter 2, Semiconductors
 HW; Page 53 #1, 2, 3, 4, and 5
 Lab: Experiment #1 Current – Voltage Characteristic

due week #3

HW is due week #3
 Abridged report is

Week #3

Lecture: Chapter 3, Diode Theory
 HW; 85 #1, 3, 5, 7, 9, 11, 13, 15, 17, 19, and 21
 Lab: **Quiz1, Time = 30 Minutes**
 Experiment #2 The Semiconductor Diode

due week #4

HW is due week #4

Complete report is

Week #4

Lecture: Chapter 4, Diode Circuits; Transformer, Half-Wave, and Full-Wave Rectifiers
 HW; Page 135, #1, 3, 5, 7, 9, and 10
 Lab: Experiment #3 Half-Wave & Full-Wave Rectifiers

due week #5

HW is due week #5
 Abridged report is

Week #5

Lecture: Chapter 4, Diode Circuits: Bridge Rectifier, The Capacitor-Input Filter & PSPICE
 Analysis of Diode Circuits”
 HW; Page 136 #11, 13, 14, 15, 17, 19, and 21
 Lab: **Quiz 2, Time = 30 Minutes**
 Experiment #4-A Diode Clippers

due week #7

HW is due week #6

Abridged report is

Week #6

Lecture: Chapter 5, Special Purpose Diodes: Zener, LED, Varactor & PSPICE Diode Circuit
 Analysis”
 HW; Page 187 #1, 3, 5, 7, 11, 13, 15, 17, 19, 21, and 23
 Lab: Experiment #4 –B Diode Clampers

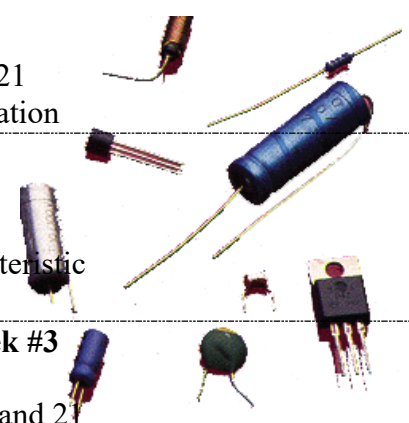
due week #7

HW is due week #7

Abridged report is

Week #7

Lecture: **Midterm Exam**
 Lab: **Oral Presentations**



Week #8

Lecture: Chapter 6, Bipolar Transistors & PSPICE Transistor Circuit Analysis
HW; Page 238 #1, 3, 5, 7, 9, 11, 13, 15, and 17 HW is due
week #9
Lab: Experiment #5, The Zener Diode **Complete**
report is due week #10

Week #9

Lecture: Chapter 6 Continued, Transistor Fundamentals: Load Line, Operating Point, Saturation,
And Switching
HW; Page 238 #21, 22, 23, 25, 26, 30, 32 and 35 HW is due
week #10
Lab: Experiment #6-Part I, Transistor Fundamentals Abridged
report is due week #10

Week #10

Lecture: Chapter 7, Emitter Bias, LED Drivers & Troubleshooting Emitter Bias Circuits
HW; Page 277 #1, 3, 5, 7, 9, 11 & 13 HW is due
week #11
Lab: **Quiz 3, Time = 30 Minutes**
Experiment #6-Part II Common-Base Transistor Abridged
report is due week #12

Week #11

Lecture: Chapter 7, VDB Load Line and Q point, Two Supply Emitter Bias
HW; Page 278 #15, 17, 19, 21, 27 and 29 HW is due week #12
Lab: Experiment #7 The Common-Emitter Transistor Configuration **Complete**
report is due week #12

Week #12

Lecture: Chapter 8, Basse-Biased and Emitter-Biased Amplifiers
HW; Page 324 #1, 3, 5, & 7 HW is due week #13
Lab: Experiment #8 Parameters and Components of amplifier Circuits Abridged
report is due week #13

Week #13

Lecture: Chapter 8, Small-Signal Operations & Two Transistors Model
HW; Page 324 #10, 13, 18 & 19 HW is due
week #14
Lab: **Quiz 4, Time = 30 Minutes**
Experiment #9, Single & Double Stage Amplifier **Complete**
Report is due week 14

Week #14

Lecture: Chapter 8, Loading Effect of Input Impedance & Swamped Amplifiers
HW; Page 325 #27, 28 and 30 HW is due
week #15
Lab: Make-Up Session and Review for the Final Exam

Week #15

Lecture: **Comprehensive Final Exam**
Lab: **Oral Presentations**

