

Course Title: EE 121: Electronics II
Class Spring 2020
Information: Class time: 8:30-9:20 MWF and 2:20 to 3:10 M
Location: Votey 303 M(1)WF
Votey 254 M(2)

Instructor Dr. James Kay Votey 373
Information: Phone: (802) 656-0734
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Office Hours: Monday 3:30 to 4:30 Thursday 4:15 to 5:15

Prerequisite: EE 120

Course Theory of operation of bipolar transistors. Fundamental
Description: semiconductor materials and devices. Amplifier DC and
AC analysis and design. Example analog circuit functions.

Course 1. Understand the fundamental principles of operation of
Objectives: bipolar junction transistors
2. To be able to find, read and understand technical
literature, including manufacturer's data sheets for
semiconductor devices
3. Understand fundamental assumptions and limitations
of device models
4. To be able to analyze fundamental circuits using
semiconductor devices
5. To be able to design fundamental circuits from a set of
performance requirements including multi-stage
amplifiers and switching circuits
6. To become familiar with appropriate circuit simulation
tools

Course Respect yourself and all others. I can't work on a problem
Culture: or issue with the class if I do not know about it, so please
let me know of any issues that come up.

Text: D. A. Neamen, Microelectronic Circuit Analysis and
Design, McGraw-Hill, 4th Ed. 2010.

Supplementary Paul Gray and Campbell Searle, Electronic Principles,
Text: Physics Models, and Circuits, John Wiley and Sons, 1969.
(Available through webarchive
at <https://archive.org/details/ElectronicPrinciples>)

Grading: Homework: 10%
Quizzes: 25%
Exam I: 20%
Exam II: 20%

Final: 25%

Topics:

1. Review of PN junction and introduction to Bipolar Junction Transistor physical model
2. Bipolar Juncti

Short (10 min) quizzes (nine to eleven) will be given throughout the semester, usually on Fridays. I generally give a fairly detailed description of what will be on each quiz the lecture period before it is given. This will allow you to focus your study on what will be asked on the quiz.

Exams will be given in February and April. At least one week's notice will be given. The exams will have a comprehensive component. Two sheets of notes (two-sided) may be used on in-class exams. The final exam will be a take-home design problem. A brief (~10 minute) verbal exam will be scheduled with each student to discuss their final design. The final exam grade will be based upon the quality of the design as well as the ability of the student to explain their design rationale during the verbal portion of the exam. The verbal portion of the final exam will be held during the scheduled final exam period for the course.

Late work will not be accepted unless prior arrangements have been made with the instructor. Exam/quiz conflicts should be noted early and alternate arrangements made with the instructor.

Calculators: Calculators will be allowed on most quizzes and all exams. Cell phones and computers will not be permitted during quizzes and exams, so you should have access to a dedicated calculator. Your calculator should be capable of performing exponential and trigonometric functions. However, emphasis will be placed on concepts and symbolic solutions rather than numeric results.

Attendance: Attending the lectures is highly correlated with success in this course. Attendance will not be taken, but students are expected to attend class, and are responsible for any material presented during lectures.

Academic Integrity: Students are expected to work on quizzes and exams independently. Any clarification or questions on these evaluations should be directed to the instructor. Students are encouraged to work together and to exchange ideas when working on homework. However, students must be sure to submit only their own work and to reference that work properly, including all web sources. UVM's policy on academic integrity is clearly defined and can be found at <http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf>

ADA: In keeping with University policy, any student with a documented disability interested in utilizing accommodations should contact SAS, the office of Disability Services on campus. SAS works with

students and faculty in an interactive process to explore reasonable and appropriate accommodations, which are communicated to faculty in an accommodation letter. All students are strongly encouraged to meet with their faculty to discuss the accommodations they plan to use in each course. A student's accommodation letter lists those accommodations that will not be implemented until the student meets with their faculty to create a plan. Please visit the following site for contact information.
www.uvm.edu/academicsuccess/student_accessibility_services

**Religious
Holidays:**

