

Course Title: Advanced Circuit Design

Class Spring 2020

Information: Class time: 2:50-4:05 Tuesdays and Thursdays
Location: Votey 334

Instructor Dr. James Kay Votey 373

Information: Phone: (802) 656-0734

5. Gain experience in troubleshooting prototype circuits, including dealing with the non-idealities of circuit models and parasitic components.

**Course
Culture:**

Respect yourself and all others. I work on a problem or issue with **the** class if I **do not** know. 18 663.34oe

8. DC to DC convertors (If time and interest allow) (2 weeks)
9. Phase Locked Loops (If time and interest allow) (2 weeks)
10. Synchronous demodulation (If time and interest allow) (2 weeks)
11. Precision data acquisition systems. (3 weeks)

The total duration of all these topics is 17.5 weeks, so some topics will be eliminated. Students will be surveyed (through a blackboard assignment) during the first week to determine the level of interest in each topic.

General:

The instructor posts all lecture notes, assignments, solutions, and additional material at the Blackboard (Bb) site for this class. This can be found at: <https://bb.uvm.edu>

The course will be organized in an active learning format and will require outside readings and exercises to be completed prior to the scheduled classes. In addition it is expected students will need to use the lab during non-scheduled times. Non-scheduled lab access will be granted to students after completion of the safety overview and training.

The class will be broken into modules based on the topic areas. Typical class flow will consist of a discovery class meeting where the students will work through a set of lab exercises on a new topic. The following class will typically be a mix of lecture and demonstrations on the new topic, followed by a report to be submitted by the students at the next class period. This format will be modified in the number of classes assigned to each activity based on the topic.

The take home exams will be problems sets on the topic areas. They will be a mix of 6b1y based on the topic.

succeed without attending the classes. The instructor should be contacted prior to any absences. If an absence is approved the instructor will provide the student with an out of class assignment to substitute for the material covered during the class period.

Academic Integrity:

Students are expected to behave in an ethical fashion. This includes proper citations in written work, and respect for the intellectual property of others. 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:

Students have the right to practice the religion of their choice. Students should submit in writing to the instructor by the end of the second full week of classes their documented religious

ABET Matrix:
0 - little or no contribution
1 - moderate contribution
2 - high level of contribution

Outcome (1): An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Contribution: 2

Outcome (2): An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

Contribution: 2

Outcome (3): An ability to communicate effectively with a range of audiences.

Contribution: 1

Outcome (4): An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Contribution: 0

Outcome (5): An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

Contribution: 2

Outcome (6): An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

Contribution: 2

Outcome (7): An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Contribution: 2

EE Criterion (A): The curriculum must include probability and statistics, including applications appropriate to the program name; mathematics through differential and integral calculus; sciences (defined as biological, chemical, or physical science); and engineering topics (including computing science) necessary to analyze and design complex electrical and electronic devices, software, and systems containing hardware and software components.

Contribution: 0

EE Criterion (B): The curriculum for programs containing

