

**Mohawk Valley Community College
Utica and Rome, NY**

Syllabus for Linear Electronics ET161

Instructor: Jim Fiore, Professor

Semester: Spring 2021

Phone: 792-5589

Email: jfiore@mvcc.edu

Office: AB281B

Catalog Description: The theory and applications of modern transistors are introduced; both the bipolar junction transistor and the field effect transistor are examined. Applications include usage in small and large signal class A amplifiers, as well as in class B power amplifiers. Voltage control FET applications are studied. Problem solving techniques involving digital computers are discussed.

Corequisite: ET152 Circuits 2.

Student Learning Outcomes: () – References ABET Student Outcome

- The student will demonstrate familiarity with the operating principles and linear applications of bipolar and field effect transistors. (1)
- The student will demonstrate a working knowledge of the basic theory of device operation, how to properly bias devices, and have an understanding of common circuit applications including small and large signal audio amplifiers. (1)
- The student will use a mathematical and problem solving approach for design and analysis, based on fundamental DC and AC circuit principles and math concepts. This will include the use of computer simulations.
- The student will demonstrate facility at constructing and trouble shooting transistor circuits in the laboratory with proper use of test equipment. (4)
- The student will demonstrate appropriate communication skills, particularly technical reports through the laboratory. (3)
- The student will demonstrate the ability to work as part of a technical team, particularly in the laboratory. (5)

Texts: Semiconductor Devices: Theory and Application, Fiore, text and lab manual. Available on the [course web page](#) as a free OER (Open Educational Resource) download.

Video Lectures: YouTube channel [Electronics with Professor Fiore](#)

Office Hours: As we are off-campus, simply email me at any time with questions or issues.

Communication Policy: Generally, email is the most efficient means of getting a hold of me.

Class Cancellation: A list of class cancellations can be found on the MVCC website: www.mvcc.edu

Web: My home page is: www.mvcc.edu/jfiore. Virtually everything you will need to know about this course including associated grading standards and requirements can be found on the course web page via my site ([ET161 Linear Electronics](#) link). This includes a complete week-by-week outline of chapter readings, homework, work sheets, lab assignments and approximate test dates. My current schedule is available on my home page along with utilities, manufacturer's links, lab and class guidelines, and other useful items.

Grading Policy: The final grade is based upon an accumulation of points. There will be two one-hour, in-class equivalent tests worth 100 pts each. Weekly quizzes will be 10 points each, typically; lab write-ups and work are worth 200 pts total; and up to 100 pts for projects and other graded assignments (if any). The instructor reserves the right to add or subtract up to 20 pts to (from) the total for class and lab participation, readiness, etc. This policy will be strictly adhered to in all but the most special cases. Lab work is an integral part of this course and thus students not performing lab and failing to hand in reports will automatically fail this course, regardless of test grades. Students not taking tests and quizzes without a valid excuse will receive a grade of 0 on said items. Make-ups are given at the discretion of the instructor. Tests may be curved up or down when appropriate. It is the student's responsibility to notify the instructor of absence. It is strongly urged that students stop in before small problems become major ones. Any portion of my free time is available for you. Further details on grading and class policy may be found at the link [Class Policy](#) on my main web page.

Assignments: Along with the outline on the class page, I will be posting assignments on the course Blackboard site each weekend. These will include the lab exercise for the week. For this course, lab reports (see below) will be due the following Friday. Of course, you may perform the lab whenever it is convenient for you.

Labs: As we are off campus, all labs will be performed on a simulator. [TINA-TI](#) is a free simulator for Windows (link on the course page). You can also opt for [TINA Cloud](#) which runs on any web capable platform. Cost is \$12 for one year of access. Unless otherwise specified, all labs require a write-up. These should be neat and legible. Standard technical writing style is expected along with proper grammar and spelling. On occasion, other methods of assessment may be required in lieu of the standard report.

Reports are due no later than one week following the date performed. The first half-week late creates a one letter grade loss, the second half-week causes a second letter grade loss. Reports are not acceptable beyond one week late. Detailed information regarding the format and grading standards can be found at the link [Common Lab Report Format](#) on my main web page.

Technology Usage: In general, student use of technologies not relevant to this classroom setting is prohibited (e.g., Zoom). This includes, but is not limited to, cell phones, MP3 players, and video/photo capture devices. Instructor discretion may be exercised if the technology is a component of the learning environment or by prior student notification. **Smart devices will not be allowed during tests.**

Academic Integrity and Civility: Unethical or dishonest behavior may result in failure of the course or other disciplinary actions. Further, professional and civil conduct is expected in both lecture and lab.

Students with Disabilities

I would appreciate hearing from anyone in the class who has any type of disability (e.g., physical, learning, mental health, vision, hearing, etc.) which may require some special accommodation. Please see me during my office hours so that we can discuss your needs. Before services can begin, you must also contact the Office of Accessibility Resources, 315-792-5644, in Room 129E of Wilcox Hall on the Utica Campus. Staff members will review your documentation, determine your eligibility for accommodations, and decide what those accommodations will be.

DGV Statement

A few years ago, MVCC initiated a program titled “Diversity-Global View” (DGV), which gave each of our graduates a chance to participate in educational experiences designed to increase awareness of intercultural perspectives. Our goal in doing so was to enhance our students’ understanding of the realities faced by individuals as a result of their race, ethnicity, cultural background, gender, sexual orientation, socioeconomic status, academic abilities and interests, age, religious beliefs, and physical ability. To that end, all graduates who matriculated into programs in the fall 2008 or more recently, or who have changed their major since 2008, are now required to complete the DGV components associated with the degree or certificate program in which they are enrolled. For more information please visit <http://www.mvcc.edu/dgv>.

Sustainability Statement

Mohawk Valley Community College is committed to development and implementation of a comprehensive sustainability plan. To that end, we are beginning by asking students, faculty, and staff to actively participate in energy conservation measures and proper recycling on campus. The green bins located in classrooms are for recycling only, not for trash. These are single source recycling containers and no sorting is required. Any materials that cannot be recycled should be placed in garbage cans. It is also important to turn off lights and computers when leaving a room. Together we can make an impact on conserving our resources. Remember to reduce, reuse and recycle!

Civility Statement

Mohawk Valley Community College is committed to civility in and out of the classroom. MVCC believes everyone has the right to an environment that creates the safe opportunity for educational, professional, and social development. MVCC recognizes its responsibility to model and encourage a culture of civil behavior.

Title IX Statement

Title IX states that no person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance. Protections also extend to sexual harassment and sexual assault or violence that impairs or interferes with access to equitable educational and employment opportunities. For more information, please visit the Title IX website at www.mvcc.edu/title-ix