

COURSE: ELECTRONICS LAB EN-3212L FALL 2022
INSTRUCTOR: Dr. Diane DiMassa ddimassa@maritime.edu HA-215 ext. 5119
Office Hours: M 0900-1100 W 0900-1000

TEXTS: Electronics Laboratory Workbook
allaboutcircuits.com

CO-REQUISITIE: Electronics (EN3212)

This laboratory supports the Electronics course (EN-3212). Participants learn to use electronic instruments by taking measurements on analog and digital circuits constructed during the lab period. The measurements are then used to verify the analytical relationships developed in the classroom.

OBJECTIVES:

- Identify basic components used for analog signals and conditioning.
- Read basic circuit diagrams
- Build circuits that demonstrate fundamental electronics concepts using a breadboard
- Build basic filters
- Use solid-state devices for amplification, switching, and timing applications
- Build circuits that demonstrate logic gates

Grading: Grades are based on both team assignments and individual work as shown below. **DO NOT miss lab - There are NO make-up labs. For each lab missed, there is a 15% deduction from the final grade – OUCH! DO NOT** assume you can come to a different section. **Late work is NOT accepted. I mean it.**

Participation	10%
Weekly Quizzes	30%
Homework and Assignments	30%
Laboratory Exam	30%
Total Grade	100%

Subject to Change

Lab 1: Breadboarding, DVM, Resistors, Potentiometers, Capacitors, Soldering

Lab 2: Power Supplies, Diodes, Oscilloscopes, Switches, Relays

Lab 3: Master Control Relay

Lab 4: Voltage Dividers, Wheatstone Bridge

Lab 5: Capacitors, Rectifiers, and Transient Signals

Lab 6: 555 Timer in Astable mode

Lab 7: Filters: High-Pass, Lo-Pass, Band-Pass

Lab 8: Lab Transistors: Switches and Amplifiers

Lab 9: Operational Amplifiers: Inverting and Non-inverting Amplifiers

Lab 10: Operational Amplifiers: Inverting Summers

Lab 11: Logic Gates

Lab 12: Exam

CELL PHONES: Cell phones are NOT permitted in class. If your cell phone rings, beeps, vibrates, etc. or you use your phone for anything (including text messaging) at any time during class, it may be confiscated and delivered to the Academic Dean, and you may be dismissed from class – even if it is during the exam.

DISABILITIES: Students with documented disabilities will be afforded appropriate accommodations. Students entitled to additional time on exams must make arrangements with me in advance. Students who believe they may need accommodations in this class are required to contact the Disability Resource Officer within the first two weeks of class.