

Lab 10 – Simulation Challenge

For this week's Lab, each student will select one Mini-Project module from the pool below. After completing the Mini-Project procedure and questions, you will ALSO submit, in your lab report, approximately one page of analysis detailing (in your own words) the function of the circuit. Include, where possible, equations, and technical understanding derived from earlier labs, lectures, other mini-projects, or your own study. Please be sure to provide any graphs, tables, or other simulation elements that will aid you in explaining the operation of the circuit. Write as much as you need to properly explain the operation of your selected Mini-Project module's circuit.

Comment: Some Mini-Project Modules may have “deeper” questions that already guide you to write a the detailed portion mentioned above.

If you struggle to write a detailed description of the circuit operation, you may also consider expanding the module in some way and writing about your experiment. For example, maybe the amplifier can be used to amplify different signals you generate using different settings of the voltage supply or a zener diode could be used in a diode clipping circuit.

Lab 10 DOES NOT COUNT as one of the 6 Mini-Projects you have been asked to submit this semester. You may not submit the same Mini-Project twice, but you can select *other* Mini-Projects from the list below to fulfill your Mini-Project requirement.

Choose one of the following to submit for Laboratory 10:

- LTspice Module 1909: The Amplifier: Gain and Offset Control
- LTspice Module 1917: Zener Voltage Regulator
- LTspice Module 1930: A Timed Reaction
- LTspice Module 1914: Digital-to-Analog Converter (DAC)
- LTspice Module 1911: A DC Voltage Control