

ELEN 50: Electric Circuits I
Lab Schedule
Winter 2017
January 9, 2017 – March 17, 2017

| Week # | Lab # / Name | Lab Objectives |
|--------|---|--|
| 1 | 0 - Introduction to MATLAB | Learn the basics of MATLAB |
| 2 | 1 - Vectors and Matrices MATLAB | Learn how to use vectors and matrices with MATLAB |
| 3 | 2 – Circuits with Series and Parallel Resistors | Familiarize with measurements on electric circuits; use Kirchoff's laws and determine equivalent resistances |
| 4 | 3 – Wheatstone Bridge | Verify the operation of a Wheatstone Bridge |
| 5 | Project 1 – Optimal Power Delivery | Design a MATLAB code to simulate a power distribution network |
| 6 | Project 1 – Optimal Power Delivery | Verify simulation results from previous week with measurements |
| 7 | 4 – Operational Amplifier Circuits | Design and implement an inverting amplifier according to specifications |
| 8 | 5 – RC Circuits | Experimentally verify the time constant of a simple RC circuit, and demonstrate a high-pass filter and a low-pass filter |
| 9 | Project 2 – Basic Filter Design | Design a MATLAB code to simulate basic active filters |
| 10 | Project 2 – Basic Filter Design | Verify simulation results from previous week with measurements |