




REVIEW

- **Introduction**
 - basic concepts (charge, current, voltage)
 - components (, , , sources)
 - measurements and meters
 - water-flow analogy
- **DC circuit analysis**
 - circuit reduction (series, parallel)
 - Kirchhoff's Laws
 - keeping the signs straight
 - mesh analysis (superposition, linear algebra)
 - Thévenin & Norton equivalents (V_{oc} ; I_{sc} ; sources off)
- **Transients**
 - time-dependence \Rightarrow KVL produces DE's
 - rules for adding C's and L's (series, parallel)
 - RC, RL \rightarrow RCL circuit. Damping & oscillations
 - time constants & initial conditions
- **Sinusoidal analysis**
 - impedance as generalized resistance. Adding Z 's
 - complex number representation. Phasors
 - AC form of Ohm's Law. Phase shifts.
 - time-domain (DE) vs. frequency-domain (complex #)
 - resonance. Quality factor
 - RC & RL circuits as filters. Decibels.
 - AC equivalent circuits
 - transformers