**311 Schedule**

**1/22-Wed Lec1:** Intro, Syllabus, Adds/Roll
**Lab:** Supplies, Always bring laptop with LTSpice for Future Classes. Basic Supplies needed by Lec3, Oscilloscope cables and All supplies needed by Lec5

**1/27-Mon Lec2:** LED Diode Lecture (Review) Next Semester, Move This to Lect1
**Lab:** Lab 1 part1 - Diodes (LEDs - Light Emitting Diodes section) LTSpice Simulation
**This simulation must be completed before next class**

**1/29-Wed Lec3** Intro to Semiconductor Physics
**Lab:** Lab 1 part1 - Diodes (LEDs - Light Emitting Diodes section) Experiment
**Bring Basic Supplies:**Wire, Breadboard, Resistors, DMM, LEDs (Light Emitting Diode/s)

**2/03-Mon Lec4:** AC Review, Diodes in AC, Series/Shunt Clipper Circuits
**Lab:** Lab 1 part2 - Diodes (Clipper Circuits LTSpice section)
**This simulation must be completed before next class**

**2/05-Wed Lec5:** Double Diode Clipper (end a little early for more lab time)
**Lab:** Lab 1 part2 - Diodes (Clipper Circuits Hands-On section)

**2/10-Mon Lec6:** Zener Diodes, Zeners in AC (end a little early for more lab time) **Lab:** Lab 1 part2 - Diodes (Clipper Circuits Hands-On section) Cont…
**Lab 1 is Due by beginning of next class in Canvas**

**2/12-Mon Lec8:** Intro to Linear Power Supplies, Transformer Review, Half-Wave Rectifier,  **Lab:** Start Lab 2 - Linear Power Supplies

**2/17-Wed Lec9:** **No Class, Instructor Absent (Family Emergency)**

**2/19-Mon Lec10:** Full-Wave Bridge Rectifiers, Ripple Voltage, Methods to Minimize Ripple Voltage
**Lab:** Lab 2 - Linear Power Supplies Cont...

**2/24-Wed Lec11:** Regulated vs Unregulated Power, Fixed Voltage Regulators, Regulator Internals, Negative Feedback Loops, Zener/Diode Voltage References
**Lab:** Lab 2 - Linear Power Supplies Cont...

**2/26-Wed Lec12:** Negative Voltage Regulators, Adjustable Voltage Regulators, Zener Regulator
**Lab:** Lab 2 - Linear Power Supplies Cont...

**3/03-Mon Lec13:** Transistor Introduction, BJT Modes of Operation, Models, Transistor BJT DC Analysis (& 1st Example) **Lab:** Lab 2 - Linear Power Supplies Cont...

**3/05-Wed Lec14:** BJT DC Analysis Examples (Finish Examples)
**Lab:** Lab 2 - Linear Power Supplies Cont...

**3/10-Mon Lec15:** BJT Switch (LED Example)
**Lab:** Lab 2 - Linear Power Supplies Cont...

**3/12-Wed Lec16:** BJT Characteristic Curve, BJT Load Line Analysis, Midterm Review
**Lab:** Lab 2 - Linear Power Supplies Cont...
**Lab 2 is Due by beginning of next class in Canvas**

**3/17-Mon Lec17: Midterm**
**Lab:** No Lab

3/20 Lab 3 – Transistors

3/24

-----------------------------------WORK IN PROGRESS BELOW-----------------------------------------

**10/21-Mon Lec16:** Midterm Review
**Lab:** Lab 2 - Linear Power Supplies Cont...

**10/30-Wed Lec17:** **1st** **Midterm**
**Lab:** No Lab

**11/04-Mon Lec18:** Load Line Analysis, Voltage Divider Bias (Approx Technique), Note: This semester we skipped the Thevenin Approximation Soln.
**Lab:** Lab 3 – BJT Transistor Switch

**11/06-Wed Lec19:** Intro to Amplifiers (Voltage Gain), AC Analysis Goal: Generic Amplifier Model and Amplifier Parameters, Effects of Capacitive Reactance, CE Amplifier Analysis
**Lab:** Lab 3 – BJT Transistor Switch
**Lab 3 is Due by beginning of next class in Canvas**

**11/11-Mon Holiday: Veterans Day, Campus Closed**

**11/13-Wed Lec20:** Finish CE Amplifier, Effects of Impedance, CC Amplifier and 2 Stage
**Lab:** Lab 4 – CE Amplifier Lab – Hand Calculated Solution

**11/18-Mon Lec21:** MOSFETS, Power MOSFETS, Switching Circuits and Logic Gates
**Lab:** Lab 4 – CE Amplifier Lab – Simulation

**11/20-Wed Lec22:** Operational Amplifiers, Closed Loop vs Open Loop configurations, Comparator Circuit
**Lab:** Lab 4 – CE Amplifier Lab – Bench

**11/25 to 11/29 Holiday: Fall Break & Thanksgiving**

**12/02-Mon Lec23:** Operational Amplifiers,
**Lab:** Lab 4 – CE Amplifier Lab – Bench
**Lab 4 is Due by beginning of next class in Canvas**

**12/04-Wed Lec24:** Digital-To-Analog Converters, BWR & R2R
**Lab:**

**12/09-Mon Lec24:** Analog-To-Digital Converters

**12/11-Wed Last Day of Instruction: 2nd Midterm**
**Lab: No Lab**

**DAY OF FINAL:
12/16/24 - Monday 8AM to 10AM - Line Following Robot In-Person Demo and Report Submission (Canvas)**

**LAST DAY OF INSTRUCTION (Academic Calendar):** Wednesday - 12/11/24

**FINALS WEEK:** Thursday 12/12/24 to Wednesday, 12/18/24

**--------------------------------BELOW THIS IS WORK IN PROGRESS-----------------------------**

**xx/xx-Wed Lec13:**
**Lab:** Lab 2 - Linear Power Supplies Cont...
**Lab 2 is Due by beginning of next class in Canvas**

**xx/xx-Mon Midterm 1
Lab:** No Lab

**xx/xx-Mon Lect14:** **Lab:** Lab4 Transistor as a Switch Cont...
**Lab 4 is Due by beginning of next class in Beachboard**

**4/1 to 4/7 Spring Break**