

6.002 at a Glance, Fall 2004

Handout
F04-002

Wk. of Monday	Tuesday Lecture	Wednesday Section	Thursday Lecture	Friday Section
9/6	Registration Day	R1a First day of classes Resistors, sources, power, energy	L1 Lumped abstraction, Relationship to physics, KVL, KCL Hw1out Lab0out	R1 KVL, KCL Resistive network analysis
9/13 Tut/Lab 0	L2 KVL, KCL example, nodal analysis	R2 Nodal analysis, examples	L3 Linearity, superposition, Thevenin's equivalences Hw2out	R3 Thevenin and Norton equivalences Hw1in
9/20 Tutorial	L4 Digital abstraction, Boolean logic, truth tables, switches and comb. gates Lab1out	R4 Boolean logic, comb. Gates review, examples	L5 MOS switch, S and SR model, MOS gate design Hw3out	R5 Boolean logic, MOS switch resistor (SR) model contd. Hw2in
9/27 Lab 1	L6 Nonlinear resistors, networks	R6 Static power in dig ckts, Nonlinear resistors, examples	L7 Nonlinear resistors, small signal analysis Hw4out	R7 Nonlinear resistors, small signal examples Hw3in
10/4 Tutorial	L8 Dependent sources, analog amplification	R8 Dependent sources, amplifiers, operating point analysis, biasing Lab1in	L9 MOS SCS model and MOS amplifier Hw5out	R9 Review MOS SCS model, MOS ckts, MOS amplifier Add date Hw4in
10/11 Tutorial Columbus day	L10 Amplifier large signal analysis	Quiz 1 (Evening)	L11 Amplifier small signal analysis Hw6out	R11 Amplifier small signal analysis examples Hw5in
10/18 Tutorial	L12 Amplifier small signal circuit models Lab2out	R12 Amplifier small signal circuit models and analysis examples	L13 Capacitors and their physics, first order circuits, gate cap Hw7out	R13 Inductors and their physics, first order step response, lead induct. Hw6in
10/25 Lab 2	L14 Intuitive analysis, delays in digital ckts, crosstalk demo, impulses	R14 Ramp, step, impulse, superposition	L15 Digital memory, states Hw8out	R15 Digital memory, ZIR, ZSR examples Hw7in
11/1 Tutorial	L16 Transients in Second order systems	R16 Second order examples Lab2in	L17 Second order systems with damping, intuitive analysis Hw9out	R17 Second order systems with damping, examples Hw8in
11/8 Tutorial	L18 Sinusoidal steady state analysis, freq response Lab3out	Quiz 2 (Evening)	Veterans' Day	R18 Sinusoidal steady state and frequency response plots Hw10out Hw9in
11/15 Lab 3	L19 Impedance methods	R19 Review of impedance methods and examples Drop date	L20 Filters, LPF, HPF, BPF, and BSF, Q factor, radio tuner Hw11/12out	R20 Time domain and frequency domain responses, Q factor Hw10in
11/22 Tut/Lab 4	L21 Op-amp abstraction, concept of feedback, noninverting amplifier Lab4out	R21 Op-amp abstraction, examples and review, inverting amplifier Lab3in	Thanksgiving	Vacation
11/29 Lab 4	L22 Multiple inputs and superposition, integrators, differentiators	R22 Special op-amp circuits	L23 Op-amp abstraction, concept of feedback, stability, oscillators, clocking	R23 First and second order op-amp filters Hw11/12in
12/6 Tutorial	L24 Energy and power in RC networks, NMOS and CMOS	R24 Examples, CMOS examples, energy and power Lab4in	L25 Violating the abstraction barrier Last day of classes	R25 Review
12/13		Finals	Week	