

Chemistry 442L - Fall 2006

Laboratory in Analytical Research Techniques

R. Mark Wightman

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Laboratory in Morehead 209, 1-5 pm

Aug 28-Sept 1

Lab 0: Statistics

Sept. 4-8

Lab 1: Introduction to NI ELVIS and DC circuitry

Sept. 11-15

Lab 2: Introduction to AC circuitry and oscilloscopes

(Oral Exam, Lab 0 –Hargis)

Sept. 18-22

Lab 3: Response of resistor-capacitor networks

Sept. 25-29

Lab 4: Digital oscilloscope and DC RC circuitry

(Oral exam, Lab 1,2 –Rios)

Oct. 2-6

Lab 5: Introduction to diodes, rectifiers, and construction of a dc power supply

Oct. 9-13

Lab 6: Operational Amplifiers

(Oral exam, Labs 3 and 4 –Hebling)

Oct. 23- 27

Lab 7: Programmable Switches, programmable gain amplifiers, and digital to analog conversion

(Oral exam, Labs 5 and 6 --Ridgeway)

Oct 30- Nov. 3

Lab 8: Introduction to digital circuits: timing, gates, flip-flops and counters

Nov. 6-10

Lab 9: Computer Data Acquisition and Control

(Oral exam, Labs 7-Hebling)

Nov. 13-17

Lab 10: Digital Processing of Data

Nov. 27-Dec. 1

Lab 11: Computer controlled chopper

(Oral exam, Labs 8 and 9 –Rios)

Dec. 11

(Oral exam, Labs 10 and 11 –Ridgeway)

Lab sections: Monday: Hebling; Tuesday: Hargis; Wednesday: Ridgeway

Head TA: Ridgeway

Laboratory development: Rios