

Experiment	theory found in 9 th ed Harris	estimated # labs required	Report as	due date†
Calibration of Glassware [^]	2.3-6,9; 4.6 ref procedure after chap 2 problems (p. 45)	1	mL pipet delivers; for buret: average correction in any 10 mL region beyond tolerance	8/29
Standardization of Acid and Base [^]	1.3; 7.1-2; 4.6 ref procedure chap 11 (p. 263)	2	M HCl & M NaOH (one 9/10 other 9/12)	9/10 & 9/12
Gravimetric Analysis of Ca	1.4; 27.1,2,3; 4.6 table 27.1	9 (1 entire lab and <10 min of 4-8 more)	% CaO	10/17
Direct Titration of Acid or Base [^]	1.3; 7.1-2; 4.6 ref procedure chap 11 (p. 263)	1	% KHP or % Na ₂ CO ₃	9/17
Salad Dressing Analysis	1.3; 7.1-2; 4.6	1	%(w/v) acetic acid	9/19
Antacid Analysis by back titration	1.3; 7.1-2; 4.6 normality primer	2	meq/g and % (w/w) CaCO ₃	9/24
Equivalent weight [^]	11.5; Normality primer	1	eq wt of acid or base	9/26
Spectroscopy Introduction‡ CANCELLED	4.7-9; 18.1-6; spectroscopy primer	1	TBA	xxx
Redox Titration of Oxalate	16.4; 4.6 Table 16.3	2	% oxalate	10/15
Gas Chromatography*	chap 24.1-3, 5.3-4, chromatography primer	1	% analyte (no error) submit calculations too	10/22
Determination of Cu in Brass	16.7; 4.6 table 16.5	2	% Cu	10/24
Spectrophotometric Analysis of Fe	4.7-9; 18.1-4	2	ppm Fe in powder and mg Fe/tablet	10/31
AAS (or ICP) analysis of Fe*	4.7-9; 18.1-4	1	ppm Fe in powder and mg Fe/tablet	11/19
Water Hardness (optional)	12.1-2, 6-7; 4.6	2	ppm CaCO ₃ and ppm Ca & ppm Mg	11/7
ISE Fluoride* [^]	4.7-9; 15.1-7	2	ppm F in each sample	11/14
K _a of an Indicator* [^]	4.7-9; 18.1-4; 19.1; 6.5-7	2	K _a (no error)	11/21
Acid/Base Design‡	chapter 11	3	M & identity	12/3

†All labs are due at or before 11:30 am.

*Limited instrumentation is available. You may have to wait to use it. Consider that in your planning. Let the instructor know at least one week ahead of the time you expect to need the instrument.

‡formal report required. See website for directions.

[^]this experiment has a prelab