

## CH104: Essential Topics from CH103

CH103 is a prerequisite for this course; as a result, you are expected to be familiar with all major topics covered in CH103. The following is a list of essential topics you must know to begin CH104 problems (it is not comprehensive).

Significant figures (Sec 1.8)

Basic nomenclature, including common ions, their charges, and their names (Sec 2.8)

Balancing chemical equations (Sec 3.1)

Predicting products of reactions (Secs 3.3, 3.4)

Acid/base reactions (Sec 3.4)

especially reactions of ammonia with acids,

for example  $\text{NH}_3(\text{aq}) + \text{HCl}(\text{aq}) \rightarrow \text{NH}_4\text{Cl}(\text{aq})$

or  $\text{NH}_3(\text{aq}) + \text{HCl}(\text{aq}) \rightarrow \text{NH}_4^+(\text{aq}) + \text{Cl}^-(\text{aq})$

Basic redox (Sec 3.5)

Calculating amounts of reactants and products (including those for reactions in solution, such as acid-base reactions) (Secs 4.1, 4.6)

Basic gas laws (Secs 5.3, 5.4)

Basic thermochemistry

$q = ms\Delta t$  (Sec 6.4)

Calculating enthalpies of reaction (Sec 6.5)

Electron configuration (Secs 7.9, 7.10)

Lewis Structures (including exceptions) (Chapter 9)

Electronegativity (Sec 9.5)

Molecular geometry (Sec 10.1)

Dipole moments of molecules (Sec 10.2)