

## CHEM 1000 Reading List

Silberberg 3<sup>rd</sup> Canadian edition

Topic	Readings
1 Math and Stoichiometry Review	Chapter 1 (sections 1.4 – 1.6; the earlier sections of this chapter review prerequisite knowledge from high school; if your chemistry background is rusty, read them too) Chapter 3 (sections 3.1 – 3.5)
2 Atoms, Isotopes and Nuclear Chemistry	Chapter 2 (sections 2.1 – 2.5) Chapter 25
3 Light and the Atom	Chapter 6 (sections 6.1 – 6.3)
4 Electrons, Orbitals and Quantum Numbers	Chapter 6 (section 6.4) Chapter 7 (section 7.1)
5 Electron Configurations and Periodic Trends	Chapter 7 (sections 7.2 – 7.4)
6 Metals of Groups 1 and 2	Chapter 2 (sections 2.6 – 2.7, “Binary Ionic Compounds” in section 2.8) Chapter 13 (sections 13.2 – 13.4) Chapter 23 (“Industrial Production of Sodium and Potassium” in section 23.4 – the sodium parts) Chapter 23 (“The Chlor-Alkali Process” in section 23.5)
7 More Metals and Ionic Solids	Chapter 8 (sections 8.1 – 8.2 except Born-Haber cycles) Chapter 13 (section 13.5 except boron) Chapter 23 (“Isolation of Aluminum” in section 23.4)
8 Lewis Diagrams and VSEPR Geometries	Chapter 8 (sections 8.3 – 8.6) Chapter 9 (section 9.1)
9 Polarity, Intermolecular Forces and Kinetic Molecular Theory	Chapter 9 (section 9.2) Chapter 11 (section 11.3) Chapter 4 (sections 4.5 – 4.6; the earlier sections of this chapter review gases from high school; if you are weak on this topic, read them too)
10 Nonmetals Part 1 (Hydrogen and Acids)	Chapter 2 (“Compounds that Contain Polyatomic Ions” and “Acid Names from Anion Name” in section 2.8) Chapter 13 (section 13.1) Chapter 16 (sections 16.1 – 16.2, 16.5 and 16.8) Chapter 23 (“The Sources and Uses of Hydrogen: Industrial Production of Hydrogen” in section 23.4)
11 Nonmetals Part 2 (Groups 14-17 and Boron)	Chapter 13 (sections 13.5 – 13.9) Chapter 15 (section 15.6 focusing on “Applying Le Châtelier’s Principle to the Synthesis of Ammonia”) Chapter 23 (“The Nitrogen Cycle: Industrial Fixation” in section 23.2) Chapter 23 (“Sulfuric Acid, the Most Important Chemical: Production of Elemental Sulfur” in section 23.5)
12 Co-ordination Chemistry and Colour	Chapter 24 (sections 24.1 and 24.3) Chapter 24 (“Crystal Field Theory” in section 24.4)