Important Concepts
Chapter 1

I   Frameworks for physical laws and their relationships to each other
  A General Relativity, Special Relativity and Newtonian Physics: Sec. 1.1
II Physics as Geometry
  A Newtonian: coordinate invariance of physical laws
    1 Idea Introduced: Sec. 1.2
    2 Newtonian particle kinetics as an example: Sec. 1.4
  B Special relativistic: frame-invariance of physical laws
    1 Idea introduced: Sec. 1.2
    2 Relativistic particle kinetics: Sec. 1.4
    3 4-momentum conservation: Secs. 1.4 & 1.12
      1 Stress-energy tensor: Sec. 1.12
    4 Electromagnetic theory: Sec. 1.10
      1 Lorentz force law: Sec. 1.4
III 3+1 Splits of spacetime into space plus time, and resulting relationship between
  frame-invariant and frame-dependent laws of physics
  A Particle kinetics: Sec. 1.6
  B Electromagnetic theory: Sec. 1.10
  C Continuum mechanics; stress-energy tensor: Sec. 1.12
IV Spacetime diagrams
  A Introduced: Sec. 1.7
  B Simultaneity breakdown, Lorentz contraction, time dilation: Exercise 1.11
  C The nature of time; twins paradox, time travel: Sec. 1.8
  D Global conservation of 4-momentum: Secs. 1.4 & 1.12
V   Tensor analysis
  A Without a coordinate system, abstract notation: Secs. 1.3 and 1.9
  B Index manipulations in Euclidean 3-space and in spacetime
    1 Tools introduced; slot-naming index notation: Sec's 1.5, 1.7 &1.9
    2 Used to derive standard 3-vector identities: Exercise 1.15