I. Introduction
   A. The plasma state - basic parameters
   B. Ionization processes (brief)
   C. Thermal equilibrium (brief)

II. Vlasov Theory
   A. Heuristic derivation
   B. Properties of solutions
   C. Relation to fluid equations
   D. Derivation from Liouville Equation
   E. Linear electrostatic plasma waves
   F. Landau damping
   G. Two stream and "bump on tail" instability
   H. Particle trapping
      - coherent sources of radiation

III. Strong Magnetic Fields
   A. Particle Orbits
      - magnetic confinement fusion
      - magnetospheres
   B. EM waves in magnetized plasma
      1. Linear
      2. Nonlinear - parametric decay
   C. Magneto-Hydrodynamics
      1. Low frequency waves
      2. Plasma confinement
      3. Plasma currents and self-generated magnetic fields
         - dynamo
         - reconnection

IV. Collisions
   A. Basic collisional scattering
   B. Transport coefficients

VI. Non-neutral plasmas
   A. Charged particle beams
   B. Cold plasma traps

Total = 26 lectures