Chapter 21

- What is electric charge
- Coulomb Force
- Superposition of forces
- Electric Field
    - system of charges
    - continuous distribution
        - linear charge density
        - surface charge density
        - volume charge density
            - Must know how to derive the expression for electric field for various distributions
- particle in uniform electric field
- electric dipole moment
- torque

Chapter 22

- Electric flux
- Gauss's Law
    - various gaussian surfaces
    - finding the electric field for
        - infinite long rod
        - charged surface
        - charged sphere
            - metal sphere
            - insulating sphere
- conductors with cavities

Chapter 23

- work done by electric force
- electric potential energy
    - total electric potential energy
    - work done found using the change in potential energy

- conservation of energy
- electric potential (potential)
    - potential as a potential energy per unit charge
    - change potential as a line integral of electric field
    - voltage as change in potential energy
    - total potential energy for a system of particles
    - potential due to continuous distribution
- equipotential surfaces
- potential gradient
    - finding the electric field as a partial derivative of the potential as a function of position