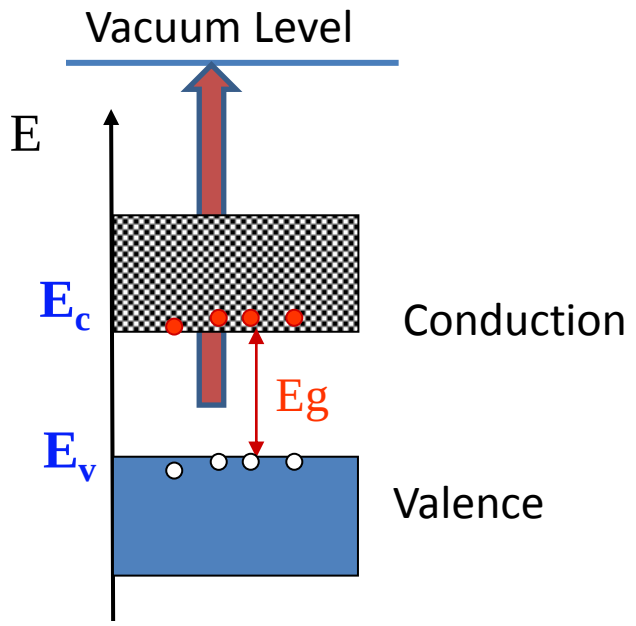
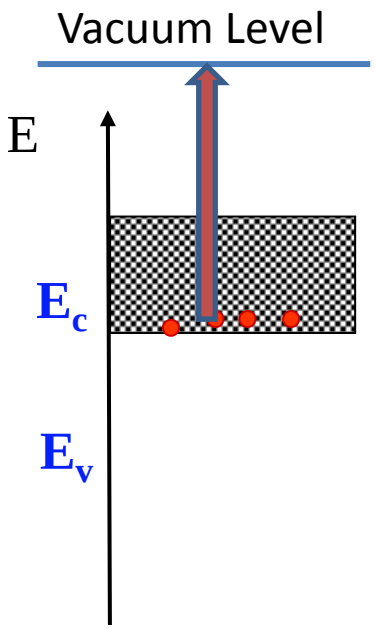
Chemical Potential & Quasi

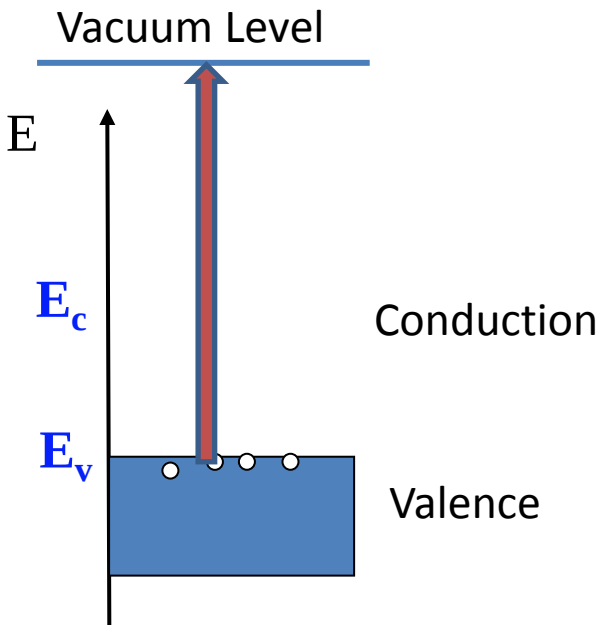
Equilibrium

$$f_{FD}(E) = \frac{1}{1+\exp\left(\frac{E-E_F}{K_B T}\right)}$$

Non-Equilibrium







Chemical potential is the energy to be added to the system if an electron is added. Electron can reside either in Valence or Conduction band according to Fermi Dirac statistics. Under equilibrium it equals the parameter in the FD statistics (E_F).

Quasi Chemical potential is the energy to be added to the system if an electron is added. Electron can reside only in the band the quasi chemical potential refers to. In the respective band it will reside according to Fermi Dirac statistics. Usually it is not equal to the parameter in the FD statistics (quasi - E_F).