

## CHEM 120

### Equations, Definitions & Things to Remember and *Understand!*

Solubility Rules (note that many of them are related to Periodic Table position)

Rules for assigning Oxidation States (again, many related to Periodic Table position)

Redox Balancing rules

$$PV = nRT$$

$$v_{\text{rms}} \propto \sqrt{T/M} \quad \text{and} \quad \{\text{effusion rate}\} \propto v_{\text{rms}}$$

$$w = -P \Delta V$$

$$\Delta U = q + w = \{\text{heat entering the system}\} + \{\text{work done on the system}\}$$

$$H = U + PV$$

$$c = \nu \lambda$$

$$E_{\nu} = h\nu = hc/\lambda$$

$$\text{KE}_{\text{max}}(e^{-}) = h\nu - W_0 = h\nu - h\nu_0 \quad (\text{Einstein \& the photoelectric effect})$$

$$\lambda_p = h/p = h/(mv) \quad (\text{de Broglie wavelength})$$

$n-1$  is the total number of nodal surfaces;  $l$  is the number of angular nodes

Rules for assigning Formal Charge in Lewis structures

Ideal VSEPR structures