**ECE 309 M.M. Yovanovich**

# Critical Point

The **critical point** is the point on a $P - V - T$ diagram where there is no change in the specific properties of saturated liquid and saturated vapor, eg, $v_f = v_g = v_{cr}$, $u_f = u_g$ and $u_{fg} = 0$; $h_f = h_g$ and $h_{fg} = 0$. There is no latent heat of vaporization.

The pressure, temperature and specific volume at the critical point are known as the critical pressure $P_{cr}$, the critical temperature $T_{cr}$ and the critical specific volume $v_{cr}$.

The critical-point properties of **water** are

$$P_{cr} = 22.09\, MPa$$

$$T_{cr} = 374.14\, ^0C$$

$$v_{cr} = 0.003155\, m^3/kg$$