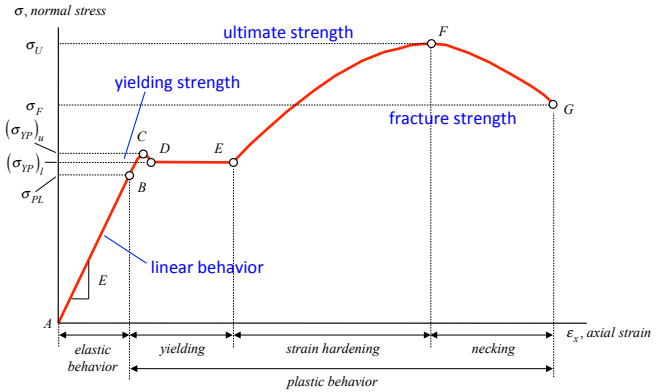
Lecture 4 summary: failure analysis

- *FAILURE: For axial load*
  Yielding strength? $\sigma_{cr} = \sigma_Y$
  Ultimate strength? $\sigma_{cr} = \sigma_U$
  Fracture strength? $\sigma_{cr} = \sigma_F$



- *FAILURE: For pure shear load*
  Yielding strength? $\tau_{cr} = \tau_Y$

- *FAILURE: For general load, it is more complicated. More later in Chapter 15 …*

- *FACTOR OF SAFETY:* $FS = \dfrac{critical\ stress}{actual\ stress}$

  Note: If FS < 1 $\Longrightarrow$ *failure*