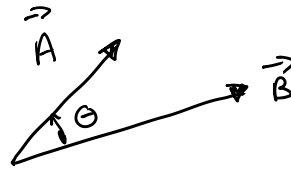


2.5) Force Components along a Line in 3-D

Dot Product

$$\vec{A} \cdot \vec{B} = AB \cos \theta$$



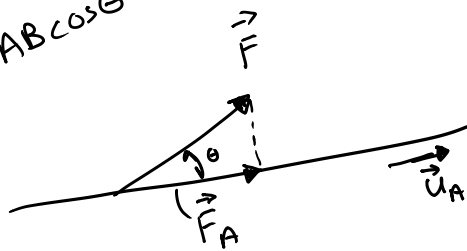
Dot Product

$$\vec{A} \cdot \vec{B} = A_x B_x + A_y B_y + A_z B_z \Rightarrow \text{SCALAR}$$

$$F_A = F \cos \theta$$

$$\vec{F} \cdot \vec{u}_A = (F)(1) \cos \theta = F \cos \theta$$

$$\vec{A} \cdot \vec{B} = AB \cos \theta$$



$$F_A = \vec{F} \cdot \vec{u}_A$$

$$\vec{F}_A = F_A \vec{u}_A$$

$$F_A \neq F \vec{u}_A$$