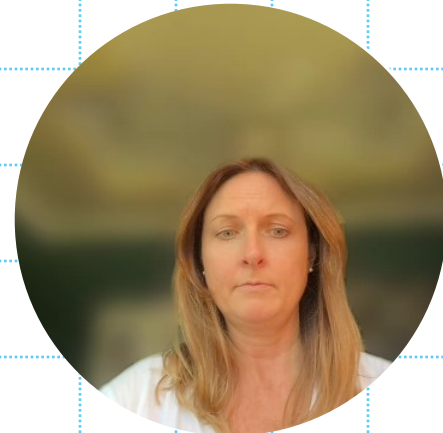


Vector Mathematics I

Engineering Fluid Mechanics

Dr. Kelly Kibler

Department of Civil, Environmental &
Construction Engineering
University of Central Florida



Temp (T)

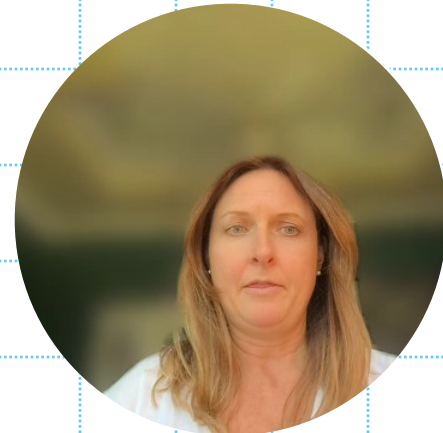
PRESSURE (P)

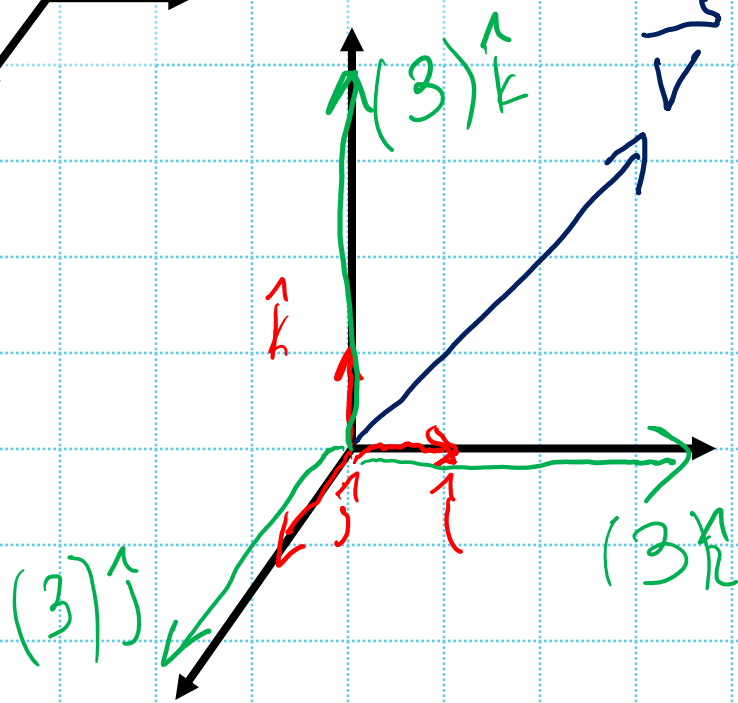
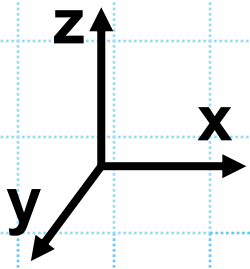
velocity ($\vec{v}$)

FORCE ($\vec{F}$)

ACCELERATION ($\vec{a}$)

Scalars and Vectors





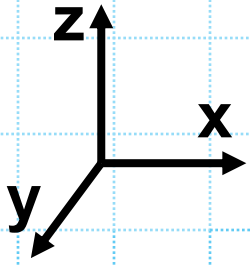
$\hat{i} \quad \hat{j} \quad \hat{k}$

$$\vec{V} = (v_x)\hat{i} + (v_y)\hat{j} + (v_z)\hat{k}$$

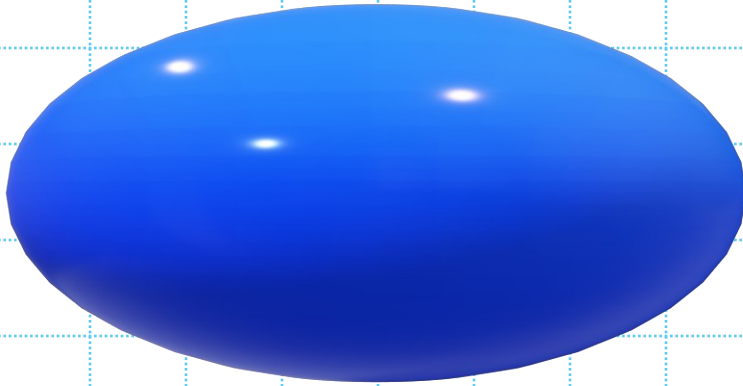
$$\vec{V} = (3)\hat{i} + (3)\hat{j} + (3)\hat{k}$$

Unit Vectors

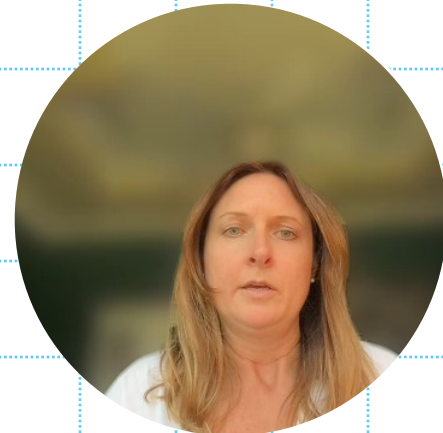


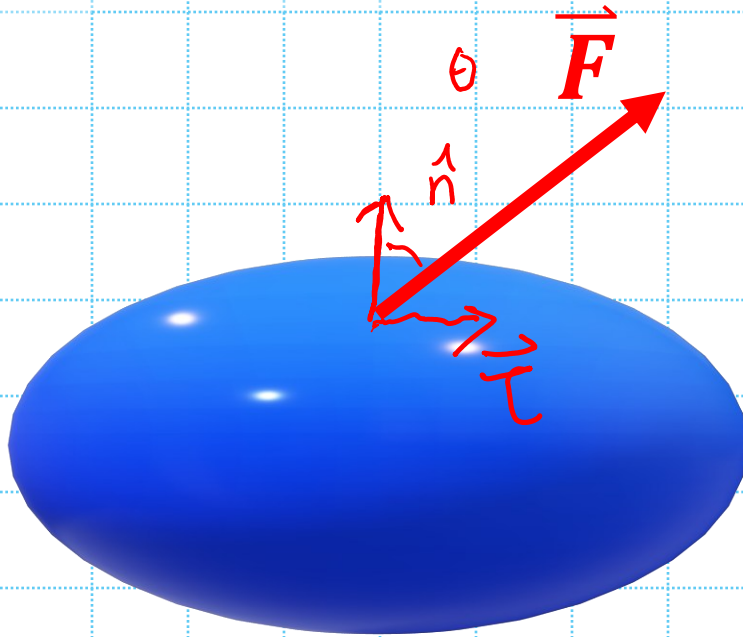
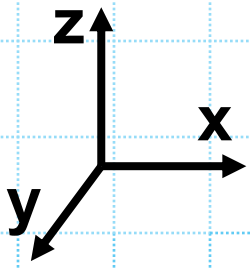


$\hat{n}$, $\hat{\tau}$



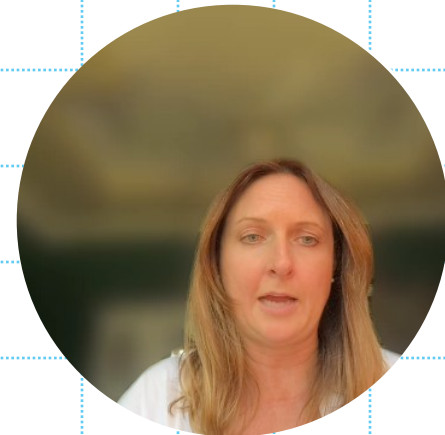
Unit Vectors





$$\hat{n} = \vec{F} \cdot \hat{n} = |\vec{F}| |\hat{n}| \cos \theta$$

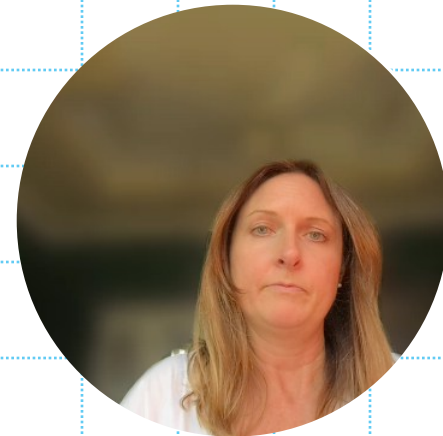
Unit Vectors





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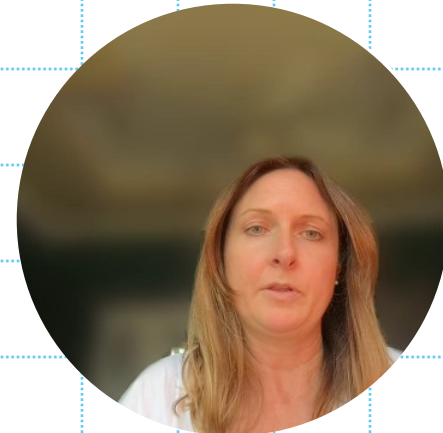


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**College of Engineering
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THE END



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