CVEN 305-301
Mechanics of Solids

Topic __Complete Generalized Hooke's Law__

$$\epsilon_x = \frac{\sigma_x}{E} - \nu \frac{\sigma_y}{E} - \nu \frac{\sigma_z}{E} + \alpha \Delta T$$

$$\epsilon_y = -\nu \frac{\sigma_x}{E} + \frac{\sigma_y}{E} - \nu \frac{\sigma_z}{E} + \alpha \Delta T$$

$$\epsilon_z = -\nu \frac{\sigma_x}{E} - \nu \frac{\sigma_y}{E} + \frac{\sigma_z}{E} + \alpha \Delta T$$

$$\tau_{xy} = G \gamma_{xy}$$

$$\tau_{xz} = G \gamma_{xz}$$

$$\tau_{yz} = G \gamma_{yz}$$

3 material constant

$$E, \nu, \text{ and } G$$

$$G = \frac{E}{2(1+\nu)}$$