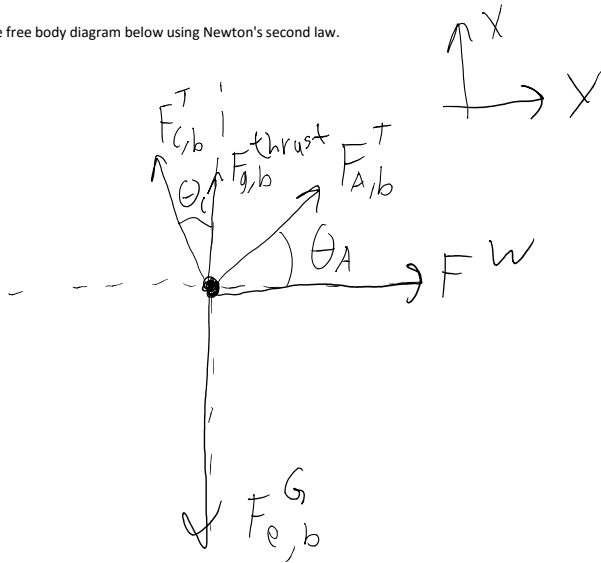


Translate the free body diagram below using Newton's second law.



$$\sum F_x = m a_x$$

$$F^W + F_{A,b}^T - F_{c,b}^T = m a_x$$

$$F^W + F_{A,b}^T \cos \theta_A - F_{c,b}^T \sin \theta_c = m a_x$$

$$\sum F_y = m a_y$$

$$F_{g,b}^{thrust} + F_{A,b}^T + F_{c,b}^T - F_{e,b}^G = m a_y$$

$$F_{g,b}^{thrust} + F_{A,b}^T \sin \theta_A + F_{c,b}^T \cos \theta_c - F_{e,b}^G = m a_y$$