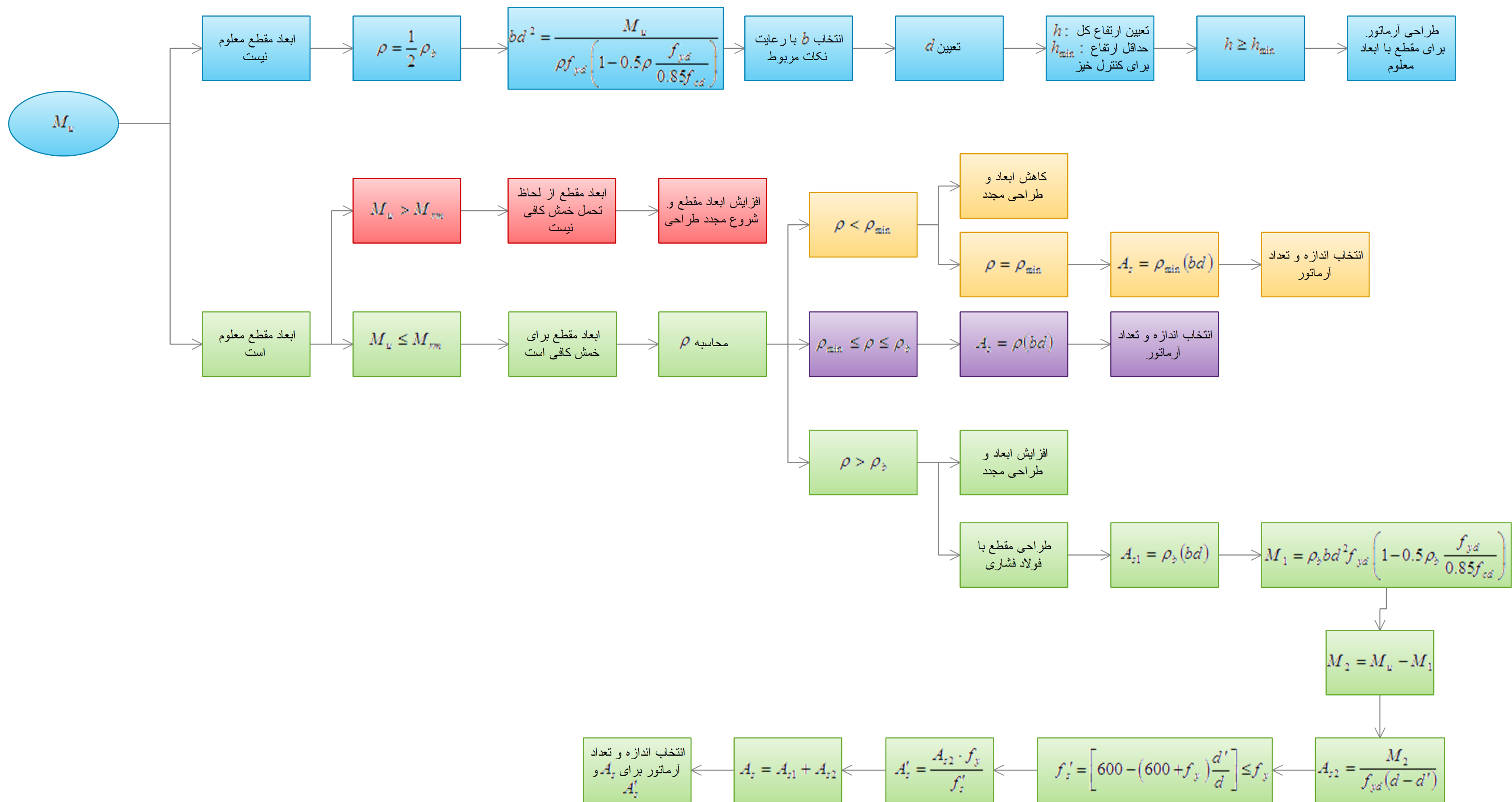


$$\rho_b = 0.6\beta_1 \frac{f_c}{f_y} \cdot \frac{600}{600 + f_y} \quad \rho_{\min} = \frac{1.4}{f_y} \quad f_{cd} = \varphi_c \cdot f_c = 0.6f_c \quad f_{yd} = \varphi_s \cdot f_y = 0.85f_y \quad M_{rm} = 0.425f_{cd}bd^2 \quad \rho = 0.85 \frac{f_{cd}}{f_{yd}} \left(1 - \sqrt{1 - \frac{2M_u}{0.85f_{cd}bd^2}} \right)$$



فلوچارت طراحی آرماتور برای خمش تیر با مقطع مستطیل شکل