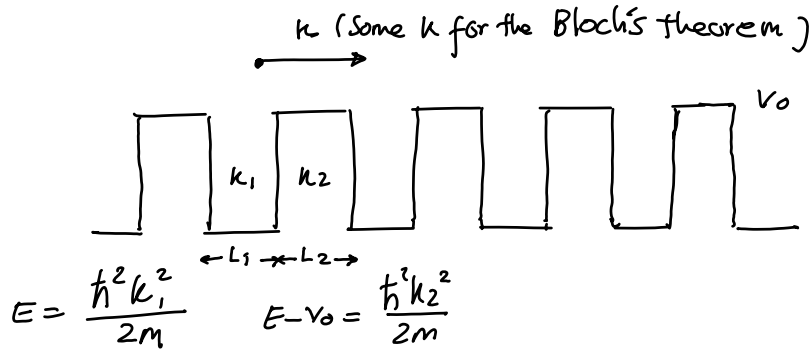


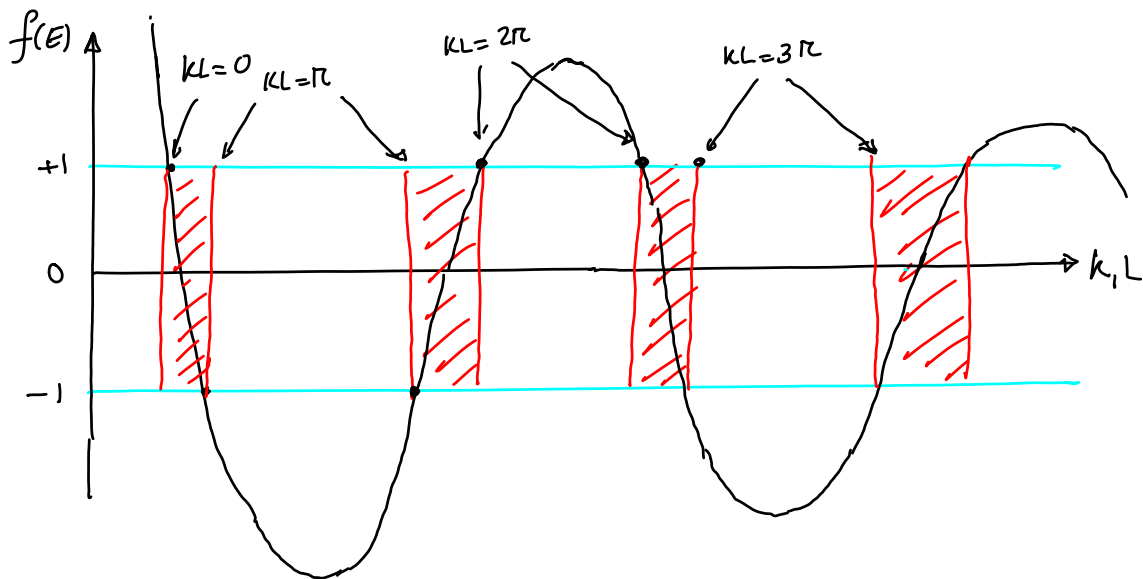
# Kronig-Penney model - continued



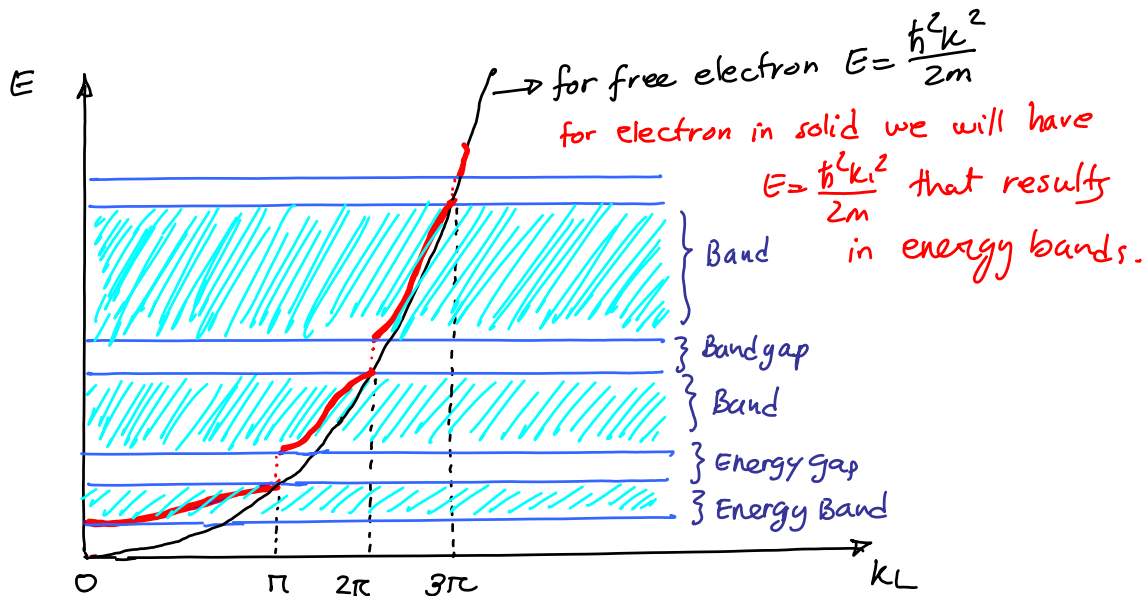
Solve this equation to find allowable  $E$ 's :

Bloch wave vector

$$-1 \leq \underbrace{\frac{k_2^2 - k_1^2}{2k_1 k_2} \sin k_2 L_2 \sin k_1 L_1 + \cos k_2 L_2 \cos k_1 L_1}_{f(E)} = \cos kL \leq 1$$



Plot  $E$  versus Bloch's wavevector,  $k$ :



### Reduced Zone

Since the potential is periodic, we can redraw  $E(k)$  in the reduced zone:

