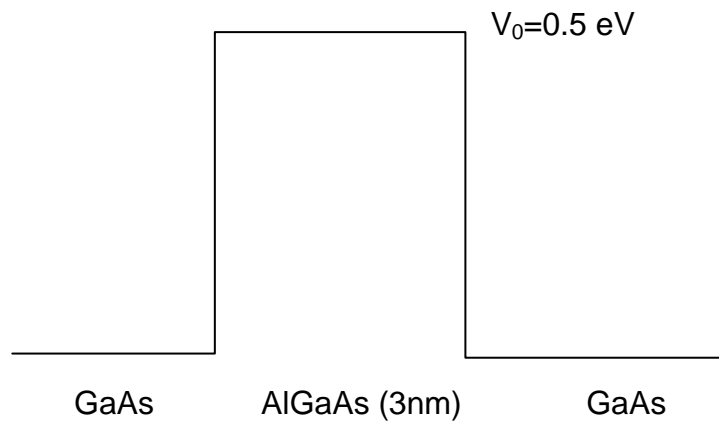


**Applied Quantum Mechanics**  
**Homework #5, due Wed Feb 13, 2008**

A 3nm layer of AlGaAs is buried in a GaAs material. This layer forms a potential barrier inside the GaAs as shown below:



Using Transmission Matrix Method, write a MATLAB code to plot the transmission probability versus energy,  $T(E)$ , for an electron moving across the AlGaAs region. Assume the effective mass of electron is similar in all regions and is equal to  $0.063 \cdot m_e$ .