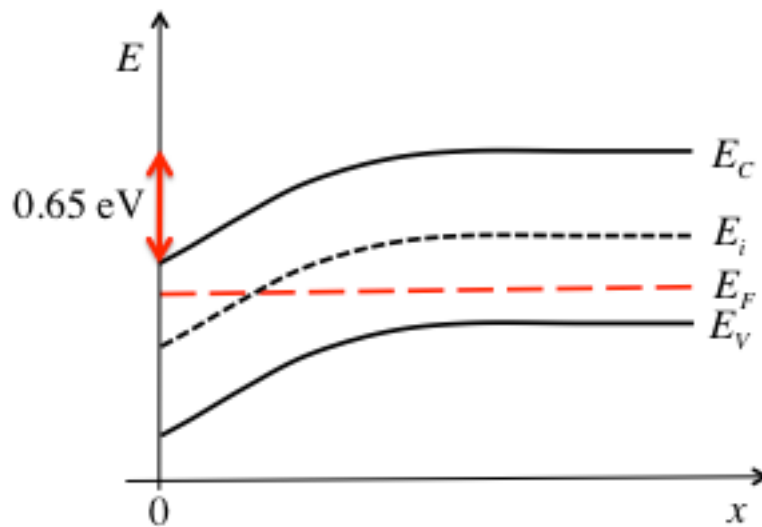


Essentials of MOSFETs
Lecture 2.1: Energy Band Diagram Review
Short Problem
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The energy band diagram below is for silicon at 300 K with $n_i = 1.0 \times 10^{10} \text{ cm}^{-3}$. The semiconductor is doped at $N_A = 1.0 \times 10^{17} \text{ cm}^{-3}$.



1) What is the electron density at $x = 0$?