

ECE 656: Fall 2009
Lecture 13 Homework

- 1) The suggested exercise on slide 31 of Lecture 13 asks how the states are occupied in the source of a ballistic MOSFET. Answer the following two questions.
 - 1a) Draw a sketch like that in slide 31 but illustrate how the states in the $E(k)$ are occupied from contact 1 (left) or contact 2 (right).
 - 1b) Give analytical expressions for the local density of states in the source. Assume a 2D density of states and express your answer in terms of E_{TOP} , then energy at the top of the barrier.