Laboratory: Current Mirror Design

Design an NMOS current source to provide a bias current of $I_O = 100 \mu A$ and an output resistance greater than 20 MΩ. The reference current is to be $I_{REF} = 150 \mu A$. The circuit is to be biased at $+/− 3.3V$ and the voltage at the drain of the current source transistor is to be no smaller than $−2.2V$.

HINT: NMOS transistors are available with the following parameters:
$V_{TN}=0.5 \, V$, $\mu_n \cdot Cox=80\mu A/V^2$, and $\lambda=0.01 \, V^{-1}$

NOTE: W/L cannot be smaller than unity

HINT: Cascode Current Mirror Structure: