Bias Circuits

- Use load line to find Quiescent operating point.
- Remember no current flow through the gate.

\[ V_{DD} \]

\[ R_D \]

\[ R_1 \]

\[ R_2 \]

\[ R_S \]

Fixed-plus Self-Bias CKT
MOSFET Circuit

• First look at DC case to find Q point
  – Use load line technique
  – All capacitors are open circuit
  – From Q-point, get $g_m$ and $r_d$ for small signal AC model

• AC Small signal analysis
  – DC source is AC ground (because there is no AC signal variation).
  – All capacitors are short circuit (unless otherwise specified).