SPICE information on NMOS and PMOS for Exp. 4

- The MOS element statement in SPICE:
  \texttt{mxxxx D G S B modelname L=length W=width}
  - \texttt{mxxxx}: MOS device name - must start with \texttt{m}. \texttt{xxxx} could be any characters or numbers
  - \texttt{modelname} is the name of the MOS model that appears in the model statement
  - \texttt{D G S B} are the node numbers for Drain, Gate, Source and Body, respectively
  - NMOS or PMOS channel \texttt{length} and \texttt{width} are specified in the MOS element statement

- The NMOS model statement:
  \texttt{.model modelname nmos (kp, vto, lambda, …… other parameter values)}

- The PMOS model statement:
  \texttt{.model modelname pmos (kp, vto, lambda, …… mother parameter values)}

\texttt{modelname} is the name of the NMOS or PMOS model that also appears in the MOS element statement. The same model name can be used for many MOSFETs. This means that these MOSFETs have the same model parameters but may have different.

- In the EE311 Lab, short Substrate (Body) and Source for all nMOS and pMOS devices.

- See the posted example for a CS Amplifier, CS_Amplifier.cir.