Reading:

Skim pp. 351-358 – It explains the SPICE MOSFET model, which you may find useful for your simulations.
Skim pp. 381-383. Again, this is a circuits class and not a device physics class, but interested readers are encouraged to learn in quantitative terms the operation of the bipolar transistor.

Problems:

1) Sedra and Smith, 4.92, D4.95, 4.96, D4.99 (Verify with SPICE), 4.104, 5.24, 5.37, 5.41.

2) An npn BJT consists of a forward biased diode between the base and emitter, and a reverse-biased diode between the base and collector. Could you create a decent bipolar transistor by soldering two diodes together, as shown in Figure P2? Why or why not? (Note: This question was asked to a friend of mine during a job interview at Conexant.)

![Figure P2.](image-url)