# Hardware Notes: CS 0447

* How to build a Central Processing Unit (CPU)
  + How do we design
    - Arithmetic Logic Unit
    - Datapath
    - Control Signals
* Arithmetic Logic Unit
  + Arithmetic Operation
    - Add (add, addi)
    - Subtract ( sub)
  + Logical Operations
    - AND (and & andi)
    - OR (or, ori)
    - NOR(nor)
  + Comparison Operations
    - Less than (slt, slti)
    - Equal (beq, bne)
  + Memory References
    - Load Word ( lw)
    - Store Word ( sw)