

Midterm

What is architecture

- difference from microarchitecture/organization
- its design principles (and think about their practice*)

ISAs

- instruction classes
- encoding*
- addressing modes
- pseudoinstructions*

Procedure calls

- calling conventions
- stack usage*

Other architectures

- how architectures have changed over time
- RISC philosophy & characteristics
- CISC philosophy & characteristics

Midterm

Performance metrics

- what they should/should not be used for
- actually putting them into practice*

Implementation

- execution cycle
- datapath
- control
 - what signals are needed & why
 - how they are generated
- can you design an implementation?*
- single vs. multiple cycle implementations
 - why have the latter
 - what changes it requires in the single-cycle implementation
- finite state machines
 - what are they
 - how they work*
- microprogramming
 - what it is
 - how it works*