

## Final Philosophy

What the exam looks like.

- Definitions, comparisons, advantages & disadvantages
  - what is it?
  - how does it work?
  - why have it?
  - pay particular attention to the terminology that was highlighted in the slides
- Apply the concepts and techniques you have learned to situations you have (hopefully) not seen before.

The goal is to test your knowledge of the material and how well you can apply it, **not how fast you can tell me what you know.**

## Topics

ILP & TLP

Static & dynamic scheduling

- Techniques for static scheduling
- Implementations of dynamic scheduling
  - Tomasulo
  - Physical register pool
- Preserving precise interrupts
- Superscalars vs. VLIW processors

Caches

- Configuration tradeoffs
- Hardware & compiler techniques to hide memory latency, reduce memory latency, eliminate memory ops, increase memory bandwidth

## Topics

### Multiprocessors

- The religious war: SM vs. MP
- Cache coherency on bus-based & distributed MIMDs
- Synchronization

### Multithreaded processors

- Fine-grain vs. SMT

### Dataflow machines