

15-410

“...Arguably less wrong...”

Synchronization #3

Sep. 22, 2004

Dave Eckhardt

Bruce Maggs

Road Map

Two Fundamental operations

✓ Atomic instruction sequence

⇒ Voluntary de-scheduling

Outline

Synch 1

- Two building blocks
- Three requirements for mutual exclusion
- Algorithms people *don't* use for mutual exclusion

Synch 2

- How mutual exclusion is really implemented

Synch 2

- Condition variables
 - Under the hood
 - The atomic-sleep problem
- Semaphores, monitors – overview