

# Operating System Architectures: Review / Identify Important Bits

- Unix
  - what are the main features of Unix?
  - forks, signals, pipes and sockets: concepts and details (labs!)
  - Posix: what main OS features are covered; why such standards are important
- Operating Systems Architectures
  - what are the 2 views of an OS
  - what are the minimal OS features
  - main attributes and issues of PC/workstation, parallel, distributed, RT & embedded OS
  - structures: (concentrate on) monolithic vs  $\mu$ kernel
  - how  $\mu$ kernels can support virtual machines and (distributed) client-server

# Language Architectures:Review / Identify Important Bits

- Occam
  - underlying philosophy
  - (4)features to support concurrency (including 'channels' for synchronization / data exchange)
  - limitations
- Pthreads (from COMP4300 Shared Memory Programming, '\*' = review)
  - Unix processes & threads (p2-5\*); why threads (p6)
  - `pthread_create()`, `pthread_join()` (p7-11)
    - ◆ threads in a C program normally access shared data through global variables (which may be pointers to **malloced** areas)
  - shared data (p13-14\*); locks (p15\*); Pthread locks (p16); OS support (p27)