

# COMP3511 Operating Systems (Fall 2016) – Supplementary Note

## Topic 5: Thread Scheduling

- **Thread Scheduling**
  - Unbounded Threads
    - They have process contention scope as each thread contends with other threads in the same process
  - Bounded Threads
    - They have system contention scope as each thread contends with all threads in the system
- **Lightweight Process**
  - A lightweight process (LWP) runs in user space on top of a single kernel thread
  - It shares address space and system resources with other LWPs within the same process
  - Multiple user level threads are managed by a thread library, can be placed on top of one or many LWPs
  - For those operating systems without LWP layer between the kernel threads and user threads, it means that user threads are implemented directly on top of kernel threads. In those cases, the term “light-weight process” refers to the kernel threads