

**Department of Physics,  
Computer Science & Engineering**

CPSC 410 – Operating Systems I

# Introduction

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# Admin: Your Background

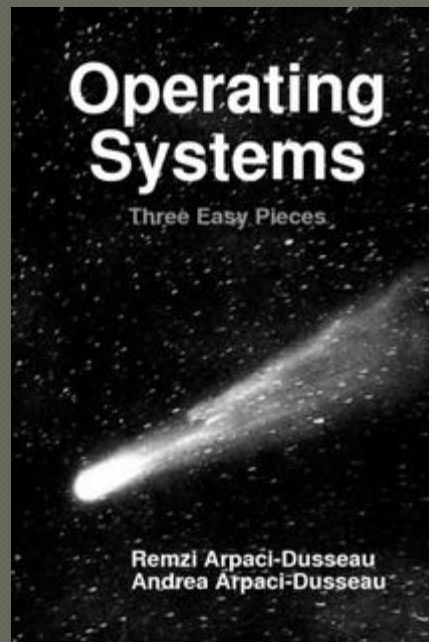
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- Some high level programming language
- Prerequisites CPEN 214, CPSC 327 (C++)

# Admin: Text

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- ◉ Free online text (Can also get a hardcopy)
- ◉ <http://pages.cs.wisc.edu/~remzi/OSTEP/>



# Admin: Text

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## ◉ Three sections

- Virtualization
  - Architecture, process scheduling, memory management
- Concurrency
  - Threads, deadlock, critical sections, mutual exclusion, etc.
- Persistence
  - I/O

# Admin: Evaluation

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- Multiple projects
- 2 midterms
- 1 final



Probably 4 but may be 5

# Admin: What you get from this class

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- ◉ Some C++ experience
- ◉ How an OS works (multitasking)
- ◉ Process scheduling
- ◉ Memory Management
- ◉ I/O management and File Management
- ◉ Threads and concurrency



Most Useful

# Admin – Linux

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- Please use Ubuntu (whatever latest version is)

# Admin – Linux – Why?

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- Most of the worlds OSs are based on unix like kernels (Mac, Android, Linux)
- Client side, games, laptops , desktops
  - Windows
  - Mac Os (unix)
- Handsets
  - -Android (unix)
  - iOS (unix)
- Servers
  - Linux (unix)
- Most high performance remotely hosted (cloud) machines are linux (AWS, paperspace, etc)
- See Linux - tutorials on course website



# Admin: Language

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## ● C++

- One C++ starter project
- The rest will be OS specific

## ● Why C++

# Admin: Compiling and debugging

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- C and C++ both compile to an executable
- Can use many compilers (clang, gcc, G++ ...)
- Please use gcc (see course website for install how to)

# Admin: Development Environment

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- Could use vim, g++, gdb, valgrind, tmux for a command line only dev environment
- Or an Integrated Development Environment (IDE)
- Lots to choose from, Codeblocks, Netbeans, Ms Visual Studio, Eclipse CDT...Clion
- We will use Eclipse CDT

# Admin - Git

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- You will use version control professionally, best to learn it now
- See 'Git-The simple guide' on course website

# Admin - Summary

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- 2 tests and a final
- Several projects
- Text is free and online
- Using Eclipse and Ubuntu
- Git
- Finally, course website:
- <https://cnuclasses.github.io/CPSC410/>