# Getting Started

IT215: Systems Software
Week 1, Jan. 3, 2016

# What's This Course All About?

- **Programming interface to services provided by OS**
  - Concurrent programming: processes, signals, pipes, threads, synchronization
  - Network programming: sockets and servers
- **System-level programs**
  - Unix shells, linkers, dynamic memory allocators
- **Foundation for advanced courses in computer systems**
  - OS, Compilers, Networks, …

# Background Required

- **Computer architecture basics (IT 209)**
  - CPU, interrupts, memory, etc.
- **C knowledge is required**
- **Working knowledge of Unix/Linux is very useful**
  - Can you edit, compile, and run a C program in Unix?

# Classroom Etiquette

- Come on time to both class and labs
- Talking, cell phones, etc. will not be tolerated

# Textbooks

- **Required**
  - **Randal Bryant and David O'Hallaron,**
    - **"Computer Systems: A Programmer's Perspective", Pearson, 2003**
  - This book really matters for the course!
    - How to solve labs
    - Practice problems typical of exam problems
- **Recommended**
  - Keith Haviland, Dina Gray and Ben Salama
    - "UNIX System Programming", Addison-Wesley, 1998
  - **Brian Kernighan and Dennis Ritchie,**
    - **"The C Programming Language, Second Edition", Prentice Hall, 1988**

# Course Coverage

- Machine Level Representation of Programs (Ch. 3)
- Linking (Ch. 7)
- Exceptional Control Flow (Ch. 8)
- Virtual Memory (Ch. 10)
- System-Level I/O (Ch. 11)
- Network Programming (Ch. 12, Ch. 13)

# Grade breakdown

- **Exams (64%): weighted 16%, 16%, 32% (final)**

- **Lab work (36%)**
  - **Lab attendance is mandatory**
  - Quick practice problems that involve writing/running programs
  - Programming assignments that may take one or two weeks to complete
    - E.g. Write our own Unix shell
    - **0 marks for copying or allowing someone to copy**