

# CIS342: Introduction to Systems Programming

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# Administrivia

- Instructor
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- Course syllabus:
  - <http://tristartom.github.io/docs/syllabus-cis300.pdf>

# Teaching Goal

- Learn how to program in Unix environment

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- Learn how to program in Unix environment
- Prerequisite:
  - Programming skills in Java/C/C++/etc (ECS102)
- Skills to learn (from Syllabus [[link](#)])
  1. Setting up Linux
  2. Bash programming and vim
  3. Basic C/C++ programming
  4. Assembly programming
  5. Gcc, makefile, and gdb
  6. Concept of syscalls

# Evaluation

- This is 2-credit course
- In-class exercises
  - Bring your computer to the classroom.
- Exams

# Materials

- Slides/lectures are the most important!
  - In Blackboard/github webpage
- Recommended readings
  - Bash
    - Bash Guide for Beginners:  
<http://tldp.org/LDP/Bash-Beginners-Guide/html/index.html>
    - Advanced Bash-Scripting Guide: <http://www.tldp.org/LDP/abs/html/>
  - System programming in C/C++/GDB:
    - Unix Programming Tools:  
<http://cslibrary.stanford.edu/107/UnixProgrammingTools.pdf>
    - Using GNU's GDB Debugger: Memory Layout And The Stack:  
[http://www.dirac.org/linux/gdb/02a-Memory\\_Layout\\_And\\_The\\_Stack.php](http://www.dirac.org/linux/gdb/02a-Memory_Layout_And_The_Stack.php)
    - **CSAPP: Computer Systems: A Programmer's Perspective**, by Randal E. Bryant and David R. O'Hallaron

# Being an SU Student

- Student Status
  - Good Standing, or Hold
  - Make sure you understand what each means
- Grade and Transcript Issues
  - Course drop deadlines
    - link: [www.syracuse.edu/academics/calendars/quarter-term/](http://www.syracuse.edu/academics/calendars/quarter-term/)
    - Add deadline\* Jan. 23
    - Financial drop deadline\* Feb. 6
    - Academic drop deadline\* Feb. 6
    - After that, you get the grade you get, stays on transcript
  - Grades stay on transcript, counts for your GPA
    - Very hard to compensate an F!

# Honor Code

- Syracuse University has an Academic Integrity Policy
  - Read it! ([http://supolicies.syr.edu/ethics/acad\\_integrity.htm](http://supolicies.syr.edu/ethics/acad_integrity.htm))
  - Violations WILL be reported!
- Grading based on your own work
  - Do NOT allow ANYONE see your work
  - Do NOT try to look at ANYONE's work
  - ANYONE includes other students, friends, family, resources from the Internet, etc.
  - Work includes code snippet, hw solutions, etc
- Penalties for cheating are high
  - Best-case scenario: lose a letter grade
  - Worst-case scenario: expelled from the University
  - Don't take chance! Cheating WILL be detected.
- **JUST DON'T CHEAT!**



# Why you need to learn Bash/Vim/C++

- A quick demo
- What's going on there.