

Version 5 (short)

CmpE 275

Section: Introductions

Part 0: Course description, tools

Welcome To 275



On track

- Agenda – Day Zero+
 - ♦ Introductions
 - ♦ Questions
 - ♦ Next lecture: lab comms bare metal
- Take away
 - ♦ Organization and goals
 - ♦ Install tools (C++, Python, Cmake, ...)

John Gash

john.gash@sjsu.edu

I'm on campus one-ish days a week:

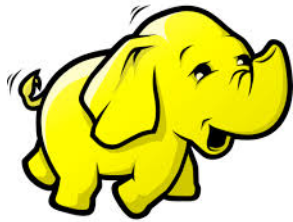
Monday (275– DMH R/234) and by appointment

(My office hours start after class and conclude when we are done)

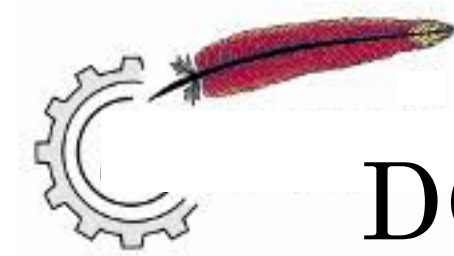
How to find me

1. In person – around campus, after class
2. Email (spotty)
3. Department mailbox (graveyard)

#past, #present, #future



ONC-RPC



DCE



CORBA



COM/DCOM/COM+/OLE



Languages and packages

*If you are not familiar with **Java, C++, Python**, it is your responsibility to spend additional time to learn.*

- Java
 - Generics, Threading
- C++14
 - Boost, OpenMP, OpenMPI, Cmake, CUDA (optional), OpenCL, ...
- Python
 - Alternatives okay – Erlang, Scala, Lua, ...
- Scripting
 - Bash

Grading (from greensheet)

Distribution

(70 pts with approximate distribution, %)

Projects

- P1 (deep dive) 25 pts
- HPC dive 10 pts

Mid-term exam 25 pts

Lightning 5 pts

Reading

- Networks
 - ♦ <http://www.dynamicobjects.com/papers/w4spot.pdf>
 - ♦ <http://www.freepastry.org/PAST/fudico.pdf>
 - ♦ Torus – <http://ieeexplore.ieee.org/xpls/icp.jsp?arnumber=6625055>
 - ♦ <https://docs.docker.com/engine/swarm/networking/>
 - ♦ Freenet – anonymous network organization
- Parallel computing and scaling
 - ♦ <https://www.hpcwire.com/2015/01/22/compilers-amdahls-law-still-relevant/>

Environment and configuration help

- We will work with many different software packages and languages. While working with your `.bashrc/.profile` or other env setup can be accomplished, switching between configurations can easily lead to conflicts. There are several tools that can help manage packages; two examples are:
 - ♦ Operating System
 - Linux-ish is best. However, MS is possible
 - ♦ Dotkits
 - https://computing.llnl.gov/?set=jobs&page=dotkit_commands
 - ♦ Lmod
 - <https://github.com/TACC/Lmod>
 - LUA-based configuration management