



University of Colorado **Boulder**

Network Management and Automation CSCI 5180

Course Overview

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Why are you taking this course?

- You will learn:
 - How to Design
 - How to Configure
 - How to Troubleshoot
 - Technologies and Theory about Automation, Management, and Operation Systems
 - Industry Must Haves
- Do it for the KNOWLEDGE, not for the grade
 - Where to find the information!
 - *I will NOT give you detailed, step-by-step instructions (it's not real world)*
 - *Find the information for yourself (search web, wiki, etc.), don't only memorize (use it or lose it)*
 - *Teach you the material and help you figure out how to learn quickly*
- Not many chances to build (and break) networks without consequence
- Internships & Fulltime Positions

Course Overview

- **Course Homepage**
 - Canvas
- **Syllabus**
 - Updates via “Versions” on Canvas
- **Office Hours and Location**
 - TBD
 - By Appointment
 - ECOT 535
- **Graduate Student Support (GSS)**
 - TBA

- **Levi - Industry Experience**

- Research Associate Open Networking Foundation (ONF)
 - *Director of OCSP Program*
- MEF Research Council – SDN/NFV
- Senior Network Engineer
 - **ADTRAN Inc. (ADTN)**
 - Hardware manufacturer (VoIP Gateways, Routers, Switches, Firewalls, Unified Communications, etc.)



- **Education**

- Ph.D. Information Systems
 - *IPv6*
- MS Information Systems



- **Research**

- SDN/NFV, Net Auto, DevOps

- **Hobbies**

- Rock Climbing
- Cycling (Road/Gravel/Mountain)



Course Overview

- **Communication**

- Slack Channel
- Add a general point about the question in the subject
 - *“CSCI XXXX: Help with IPv6 Link-local in Wireshark”*
- Do not have errors in your email
- Short and to the point
- Make sure we know what you’re asking!
- Do the little things right.
 - *How you do anything is how you do everything.*

Course Overview

- **How I teach the class**

- Lecture

- ***Interactive***

- Answer out loud = learn more

- *****Interview-style questions***

- Answer incorrect = learn more

- ***Lecture Slides***

- Talking points – requires note taking

- ***Lectures and Labs are a starting point***

- Go above and beyond

Considerations

- **Pre-requisites**

- Basic Linux (*Linux System Admin*)
- Networking (*Data Com/Network Systems*)
- Python Programming (*Fundamentals of Network Programming*)

- **Class Always Starts on Time**

- If late, then still show up, but not retake quiz

- **Bring your laptop to class!**

- See professor if you do not have a laptop that meets requirements in syllabus

Considerations

- **Workload**

- Time Management

- *Importance, Prioritize, Other Classes, Overwhelmed*

- ***TALK TO ME!***

- Expect 9-15 Hours Per Course

- The labs are designed to be done individually over multiple days

- *if you try to do everything the day before, you will not benefit as much from the course*



Late Submissions

- **No Late Submissions!**
 - This is not relevant in industry
 - Late submission will be a zero
- Addendum
 - *Late submissions up to 24 hours will receive up to 50% credit*

Honor Code

- **Provide reference citations for EVERYTHING!**
 - If there is ever a doubt, add a reference
 - The references must be IN TEXT
- **If you have a question if something is considered cheating or plagiarism—ask!**
- **Labs**
 - *Lab Submission Guidelines (Canvas)
- **Assignments**
 - *Executive Summary (Canvas)

Research Studies

- **Research study about time spent studying**
 - Better grade, not better at this
- **Research study about “magic button”**
 - This “magic button” will raise your grade by 10% or one letter
- **Research study about neighbors with computers – 5% & 10% grade improvement**
- **Which is better to memorize or know where to find it?**

Introductions

- **Random**

- Why you enrolled in the class
- What you want to learn from the class
- One hobby

Homework & Projects

- **Homework is all individual**
 - Intended to test your ability to communicate your knowledge
 - *Written & oral*
 - *Graduate degree - Learn and how to learn!*
 - Executive Summary Assignments
 - **Guide on Canvas**
 - Follow it exactly
- **Discussions – The introvert's voice**
 - Two Groups
 - *One post on your topic*
 - *One response on “other” topic*
 - *Separate days*

Quizzes & Tests

- **Quizzes - 15%**
 - Will be at the start/middle/end of class
 - Can't be made up if late
 - Will be over the assigned reading (which should be completed BEFORE class)
- **Exams – 20%**
 - Midterm -10%
 - Final - 10%

Labs – 50%

- **Lab Reports**

- Leave the question on the lab; the point value; and present your answer in a different color font
- Only answer questions that have a point value / deliverable
- Provide references where needed

- **Technologies and Topics**

- Not a lot of courses like this one
- Background and new

- **Real-world**

- Taken from experience and industry
 - *Labs have been reviewed by industry*

- **Better Understanding**

- Starting point – Go Above and Beyond
 - *Have “fun”*



Words of Advice—Have Fun!



Words of Advice

- **Attitude is everything**
- **Learn how to learn**
- **Treat this like a job**
- **I demand a lot from you, but I'm on your side**
 - Help you get a job
 - *Resume*



Syllabus