Applied Networks & Security

Class Overview

http://condor.depaul.edu/~jkrystof/it263/

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Applied, Networks, Security

• In the context of computer systems and networks:
  • Applied = practical, current, real issues
  • Networks = communications, resource sharing
  • Security = preventing *bad things* from happening
Geek check

• If you can understand statements like these:
  • I've exhausted my /24, I need more addresses
  • The SSL CERT doesn't match the host name
  • The TX pair in my x-over wasn't crimped properly
  • We null routed the destination, stupid botnets
  • `./nmap -A -P0 192.0.2.0-255`
• then this class may not be for you
Grading for this course

- 20% homework
- 20% lab assignments
- 20% tech essays
- 20% midterm exam (closed book/notes)
- 20% final exam (closed book/notes)
Homework (20%)

• Each will consist of about 5-10 questions/problems
• Coincides with lectures, readings and labs
• These should not be terribly difficult
• The aim is to reinforce what you should be learning
• We'll have about 4 of these
Lab assignments (20%)

• This is you actually doing stuff
• LAN Lab CSTC 659, M-F: 2p-10p, Sa: noon-6p
• There is always a lab assistant there to help you
• These will take some time, don't procrastinate
• You may work in groups of 4 or fewer, but...
• Each person turns in their own lab results
• We'll have about 4 of these
Tech essays (20%)

- Two pages of you demonstrating your writing ability
- A chance for you to explore something of interest
- Topic mostly of your discretion, but must:
  - be a practical networks or security topic
  - not be about a vendor-specific product
- Usually this is you summarizing a technology
- Show me you learned something on your own
- We'll have about 3 of these
Mid-term exam (20%)

• In-class exam, entire class time allotted that week
• Consists of various question types:
  • Matching
  • Multiple choice
  • Fill-in-the-blank
  • Short answer
  • Short essay
Final exam (20%)

• Comprehensive (covers all course material)
• Otherwise, just like the mid-term exam
Course materials

- http://condor.depaul.edu/~jkrystof/it263/
- Slides, lectures, demos and in-class discussions
- Guest lectures and videos
- LAN Lab and do-it-yourself exercises
- Assigned readings
- The IT 263 required book
  - The Internet Book
  - Everything you need to know about the Internet...
On the use of prior IT 263 slides

• I will supplement this class with them
• Partly to save me a bunch effort
• Partly to use as fodder for critical analysis
  • common myths/misconceptions
  • explore disagreements in design and engineering
• If you see conflicts I don't point out, please alert me!
Nightly timetable

• 17:45 / learn
• 19:30 / break
• 19:45 / learn
• 21:00 / good night
Tentative schedule

• 1: Monday, 2007-04-02 (today)
  • Course overview
  • Introduction to networking and security
• 2: Monday, 2007-04-09
  • Wired Local Area Networks (LANs)
  • Wireless Local Area Networks (LANs)
  • Homework/lab #1 due
Tentative schedule (cont.)

• 3: Monday, 2007-04-16
  • The Internet
  • The Internet Protocol (IP)
  • Homework/lab #2 due

• 4: Monday, 2007-04-23
  • The Internet protocol suite (TCP/IP)
  • Tech report #1 due
Tentative schedule (cont.)

• 5: Monday, 2007-04-30
  • IP network operations
  • Homework/lab #3 due

• 6: Monday, 2007-05-07
  • Mid-term exam only

• 7: Monday, 2007-05-14
  • Internet security threats
Tentative schedule (cont.)

- 8: Monday, 2007-05-21
  - Internet security operations
  - Tech report #2 due
- 9: Monday, 2007-05-28
  - Internet Applications
  - Homework/lab assignment #4 due
Tentative schedule (cont.)

• 10: Monday, 2007-06-04
  • Catch-up and wrap-up
  • If we are ahead, something timely and relevant
  • Tech report #3 due
• 11: Monday, 2007-06-11
  • Final exam only
What you can expect from me

• Prompt replies to email
• Fair and impartial grading and interaction
• Discussion and participation solicitor
• PowerPoint insubordination
  • Bullet points and slides aren't thy master
• An outside-the-ivory-tower perspective
• Prompt return of graded homework, labs and exams
What I expect from you

• Be present and attentive
• Ask questions and participate in discussions
• Not wait until the last minute to complete homework
• Give feedback when my instruction works or not
• Never cheat nor plagiarize
• Take good notes
• Understand the prior week's topics or seek help
• To have completed reading assignments
Please note

- Put cell phones, PDAs and pagers on vibrate or off
- No SSNs on homework, exams, papers, or in email
- Turning in homework/labs
  - COL recommended
  - Email or hard copy if you insist, redundancy good
  - Due by start of class (or whenever you arrive)
  - If you don't show up, don't bother turning it in late
- Make-up exams for extenuating circumstances only
  - And it will be different than the in-class exam
Contact info

• I prefer email: jtk@depaul.edu
• I use AIM: ultrajtk
• I also have Yahoo! IM: jtkneustar
• I don't use/have a DePaul phone
  • If you don't mind the toll, VoIP: 480-804-8227
  • Last resort please, cell: 312-402-3581
• I seldom check my CTI mailbox, not a good option
  • If you have to, alert me using a method above
A word about my office hours

• Officially they are M/W: 3-5p, F: 3-4p
• Unofficially I'm usually there M/W/F: 10a-6p
• Sometimes I'm there other days or at other times
• On occasion I won't be around M/W/F: 3-5p
  • I have some traveling I'll be doing this quarter
  • I should usually know well in advance though
  • Keep an eye on our course homepage
• If we plan ahead I can be around most anytime
whoami

• I am a part-time instructor for CTI
• Full-time I do computer networking and security
• Last three full-time jobs, current job first:
  • Network architect, Neustar (formerly UltraDNS)
  • Network engineer, Northwestern University
  • Same + R&D/netops mgr at DePaul University
• Still affiliated with NU/DPU and R&E community
• You can net search me and find out plenty more
Finally, tell us a bit about you

• In addition to your name, maybe
  • Major
  • Other network/security courses this quarter?
  • Job, full-time student?