

Network Protocols

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Prerequisites

- TDC 365 – Network Interconnection Tech.
- Some or all of the following would be nice:
 - TDC 361 – Basic Communication Systems
 - TDC 362 – Principles of Data Communications
 - TDC 363 – Local Area Networks
 - Having setup your own Linux network host
 - Job related exposure to TCP/IP networks

You will....

- Understand how protocols work or not
- Explore advanced routing protocols
- Study IP multicast internetworking
- Research advanced TCP operation
- Hear why I don't like NAT
- Read seminal and current network papers
- Be exposed to other so-called “advanced networking stuff”

I'll do my part the best I can

- Answer email promptly
- Be fair and impartial
- Encourage discussion and questions
- Make this a class you want to come to
- Help you to learn

You do your part as best you can

- Be present and attentive
- Don't wait until the last minute
- Contribute questions and discussion
- Tell me when something isn't working out
- Laugh at my jokes even if they're not funny

Grading for this course

- 15% - Homework (lowest one dropped)
- 15% - Paper summaries and reports
- 30% - Midterm exam (closed book/notes)
- 15% - Final exam (closed book/notes)
- 15% - Final project
- 10% - Class participation (a gimmee?)

Tentative schedule

- 01/10 - Introduction
- Exploration of network protocols
- Internet protocols overview
- 01/17 - Architecture
- End-to-end argument
- Internet Protocol

Tentative schedule (continued)

- 01/24 – Network Control
 - ARP
 - DHCP
 - ICMP
- 01/31 – Routing
 - RIP
 - OSPF
 - BGP

Tentative schedule (continued)

- 02/07 – IP multicast
 - IGMP
 - Routing
- 02/14 – Mid-term
- 02/21 – TCP
- 02/28 – Interactive protocols
 - UDP
 - VoIP

Tentative schedule (continued)

- 03/07 – Security
 - IPSec
 - Intrusion Detection
 - Firewalls
- 03/14 – Misc./catch-up
 - Managing Networks
 - Current research, lab tour, my work
- 03/21 – Final exam and project

Typical timetable

- Can we try something different?
- 17:45 - Learn
- 19:00 - Break
- 19:10 - Learn
- 20:00 - Break
- 20:10 - Learn
- 21:00 - Good night

So who am I?

- Part-time CTI and IPD instructor
- Manage Networks R&D
- Manage Network Security
- Projects and interests:
 - VoIP, wireless, IP multicast
 - Network security, network video/audio
 - Preventing capacity collapse

Final notes

- Everything else I left out is or will be on the course homepage
 - <http://condor.depaul.edu/~jkristof/>
- Join the class mailing list
- Be prepared to discuss papers
- This is the first time 375 is being taught
- ...yeah, I'm pretty much making it up as I go.