

**CS 536 Data Communication and Computer Networks Fall 2002**

- **Instructor :** Prof. Kihong Park
- **Class :** TTh 1:30–2:45pm (POTR 262)
- **E-mail :** [park@cs.purdue.edu](mailto:park@cs.purdue.edu)
- **Tel. :** (765) 494–7821
- **Course Homepage :**  
<http://www.cs.purdue.edu/~park/cs536.html>

- **Teaching Assistants :** TBA

- **E-mail :** TBA

- **Tel. :** TBA

- **Office Hours :** TBA

- **Course Content :** Graduate-level introductory course to computer networks and data communication
  - Theory (40%)
  - Practice (60%)
- **Prerequisites :**
  - Operating systems
  - Solid background in C and UNIX (experience with projects and low-level programming)
  - Sound undergraduate-level mathematical preparation (calculus, probability and statistics, differential equations)

- **Text Book :**

- Required: *Computer Networks: A Systems Approach*. Peterson & Davie. Morgan Kaufmann Publ., latest edition.
- Papers and other reference material will be provided by web or hardcopy.

- **Grading Policy :**

- Homework assignments (40 %); bi-weekly
- Midterm (30 %)
- Final (30 %)
- <http://www.cs.purdue.edu/~park/cs536.html>

- **Computing Requirements :**
  - Internet access: telnet and WWW
  - Purdue computer account: Xinu Lab
  - xinu1.cs.purdue.edu, xinu2.cs.purdue.edu, ...
  - xinuserver.cs.purdue.edu
  - Candace Walters (clw@cs.purdue.edu, 494-9206)

- **Computing Platform :**
  - x86-based PCs, UNIX (Solaris)
  - 100Mbps Ethernet
  - TCP/IP network programming (e.g., client/server, routers)
  - ATM network ( $\sim$ 2.4Gbps switch, 155Mbps interfaces)
  - IP-over-SONET backbone (Internet2/Abilene)

## Outline

- Introduction (3 lectures)
- Fundamentals of information transmission and coding (3 lectures)
- Direct link communication I: wired media (3 lectures)
- Direct link communication II: wireless media (2 lectures)
- End-to-end communication: packet switching and circuit switching (1 lecture)

- Internetworking with TCP/IP: structure (1 lecture)
- Socket programming and network communication (2 lectures)
- —*Midterm*—
- Internetworking with TCP/IP: functionality (2 lectures)
- Congestion control (3 lectures)
- Routing (2 lectures)

- Network traffic: data and multimedia payloads (1 lecture)
- Multimedia communication and QoS (2 lectures)
- Transparent network services: DNS, HTTP, web server design, caching and CDNs (2 lectures)
- Network security: confidentiality, authentication, denial-of-service attack (1 lecture)
- — *Final* —

## Questions?

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