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
- **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:
  - Papers and other reference material will be provided by web or hardcopy.
• Grading Policy:
  - Homework assignments (40 %); bi-weekly
  - Midterm (30 %)
  - Final (30 %)
  - [Website Link]
    
    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 (~2.4Gps 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 |

  | 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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