

Introduction to Computer Networks

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Vital Information

- Course : 電腦網路導論
- Taught by : 黃寶儀
- Class No. : 901 E31110
- Credit : 3 units

For Most of You

- All communication in English, including
 - Lectures
 - Homework
 - Exams
 - In/off-class interaction
- One exception
 - You may ask/answer questions in Mandarin

Be Aware

- Assignments and exams are accepted **only in English**
- Credits are granted only when the English is **comprehensible**
 - Keep your words/sentences simple
 - The point is to communicate

And to Avoid Confusion...

- Please make sure **your names** are clearly written **in Chinese** for all the write-up submissions.
 - Assignments
 - Exams

Think of it this way:

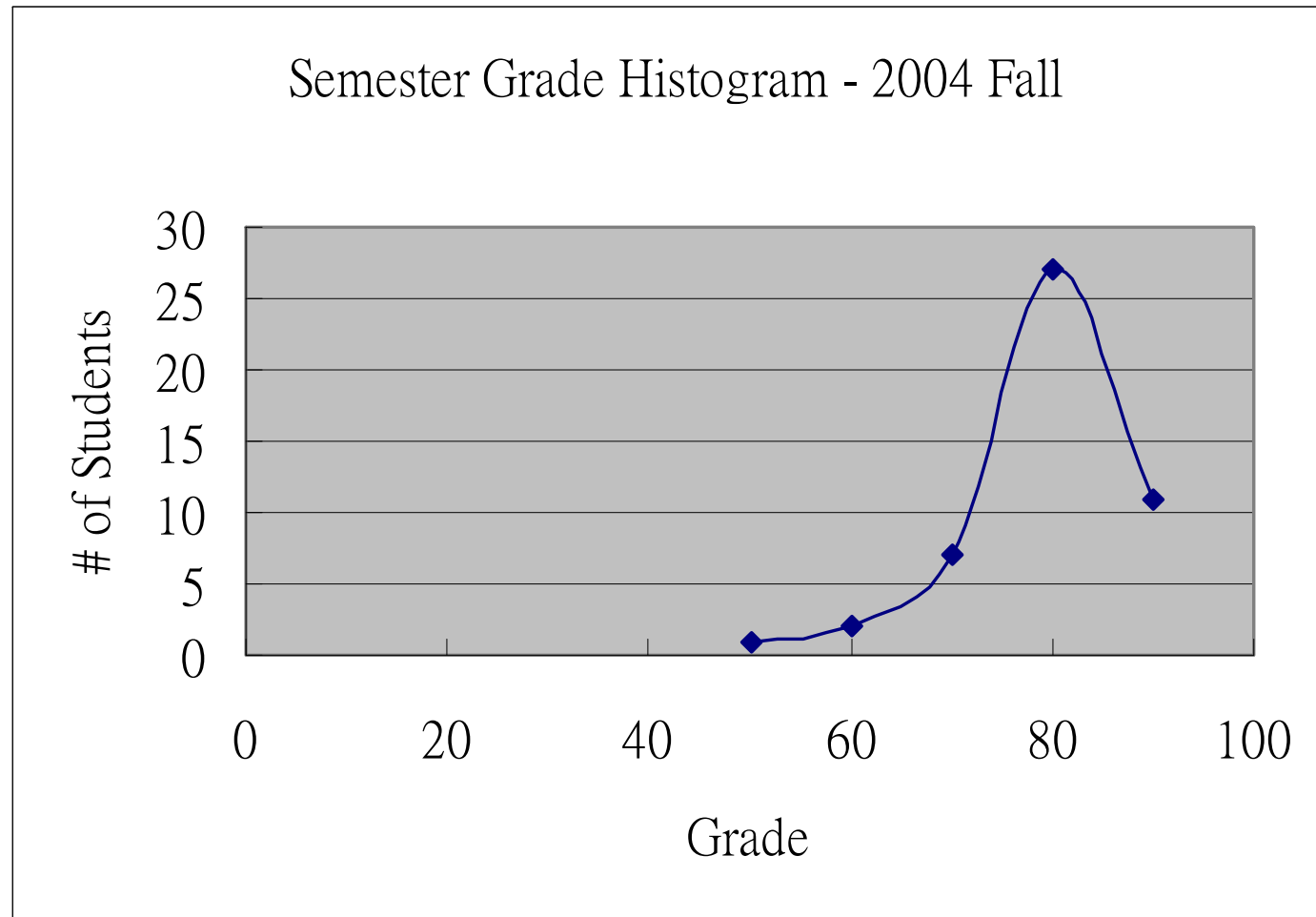
I get to be an exchange student
without going physically abroad.

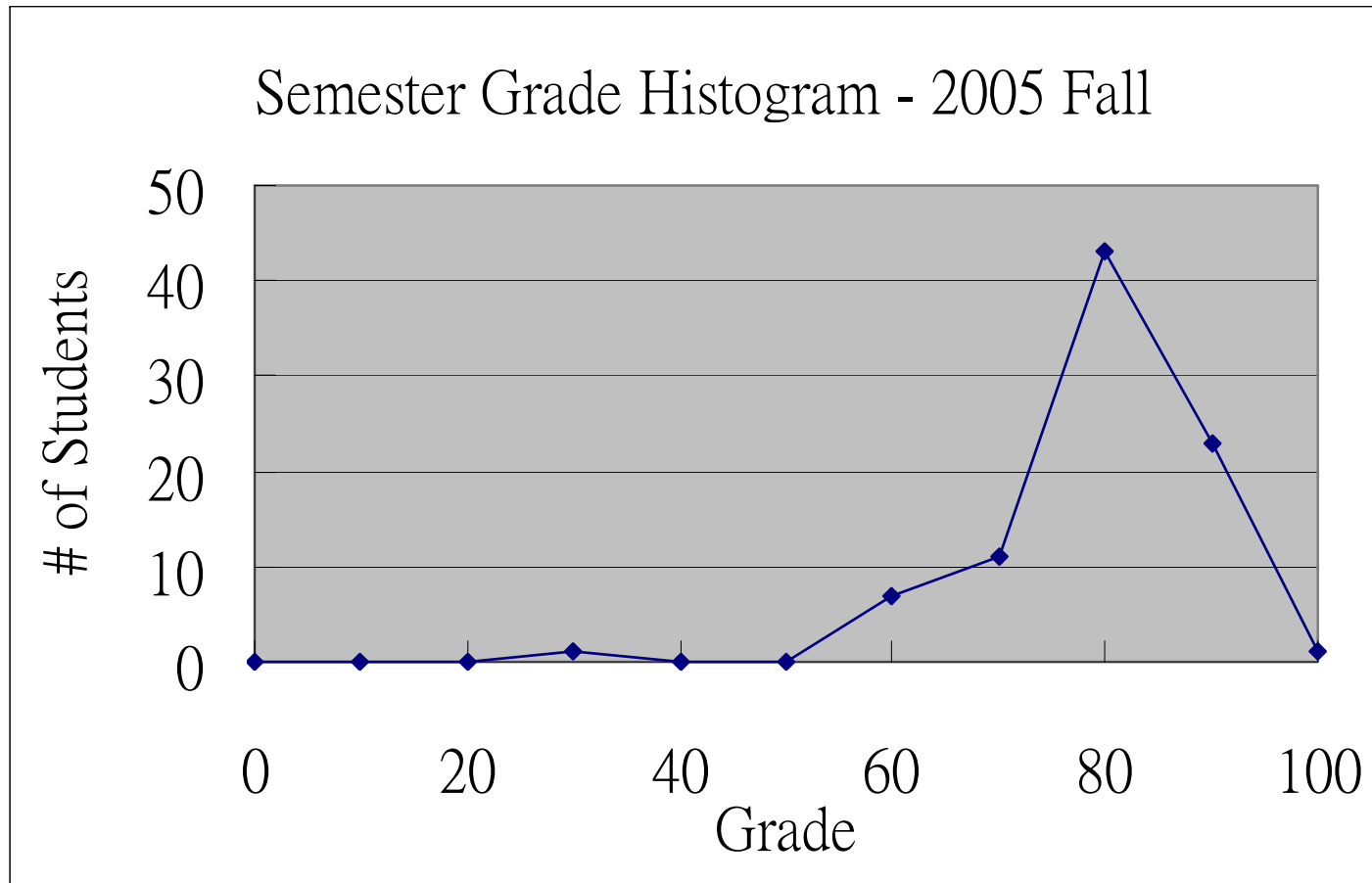
Some Suggestions

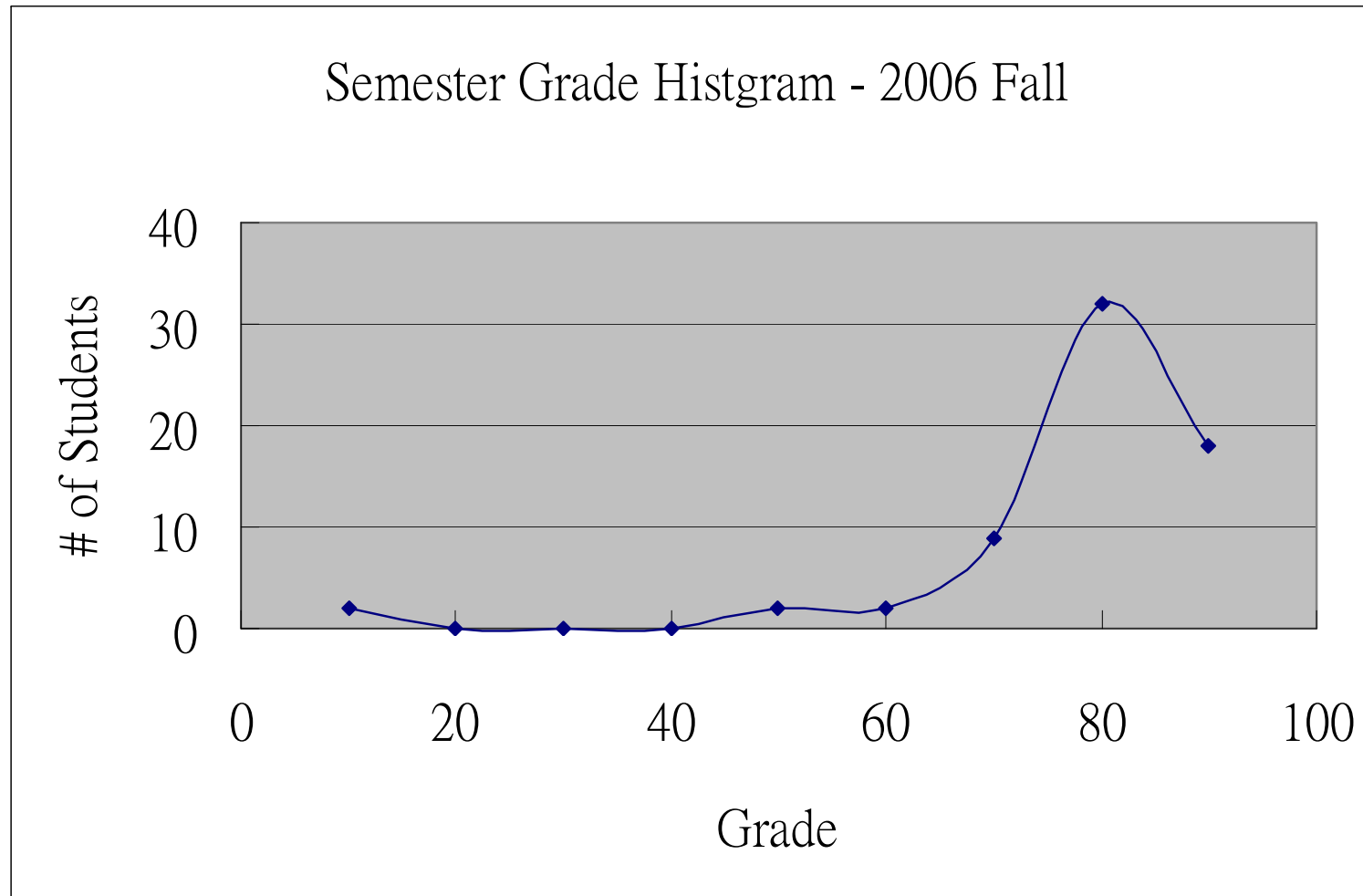
- Read the corresponding chapter before a lecture
- Review the chapter afterwards
- But come on. Let's be realistic about it!
 - For most of you, there's no time to preview, no time to review
 - If you don't get it in the lecture, you will be just studying the textbook
 - That's probably not what you want

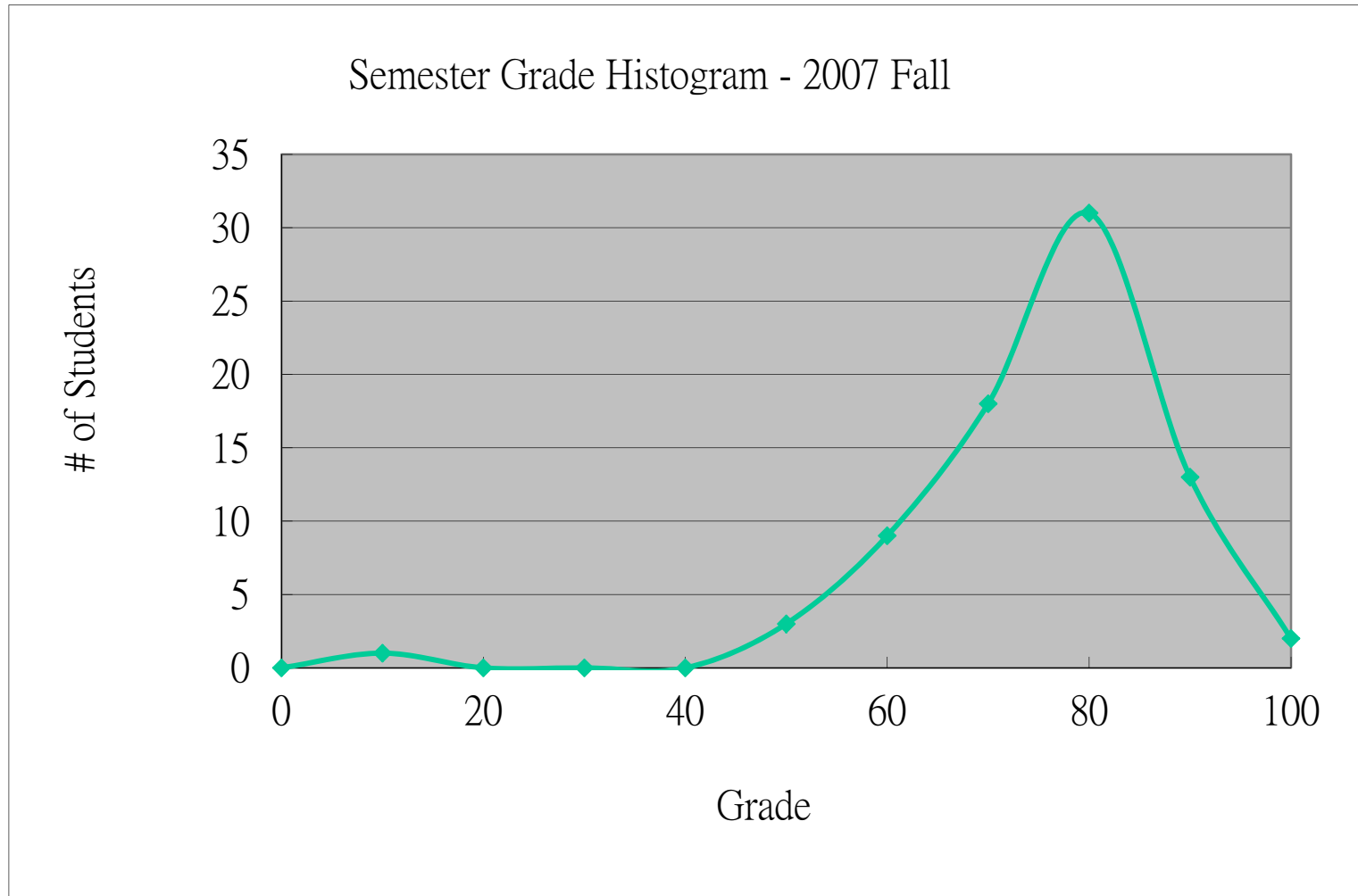
Alternatives

- The deadline for dropping a course this semester for undergrads is **December 7**.
- Another session in Fall and the session in **Spring** are fully in Mandarin.

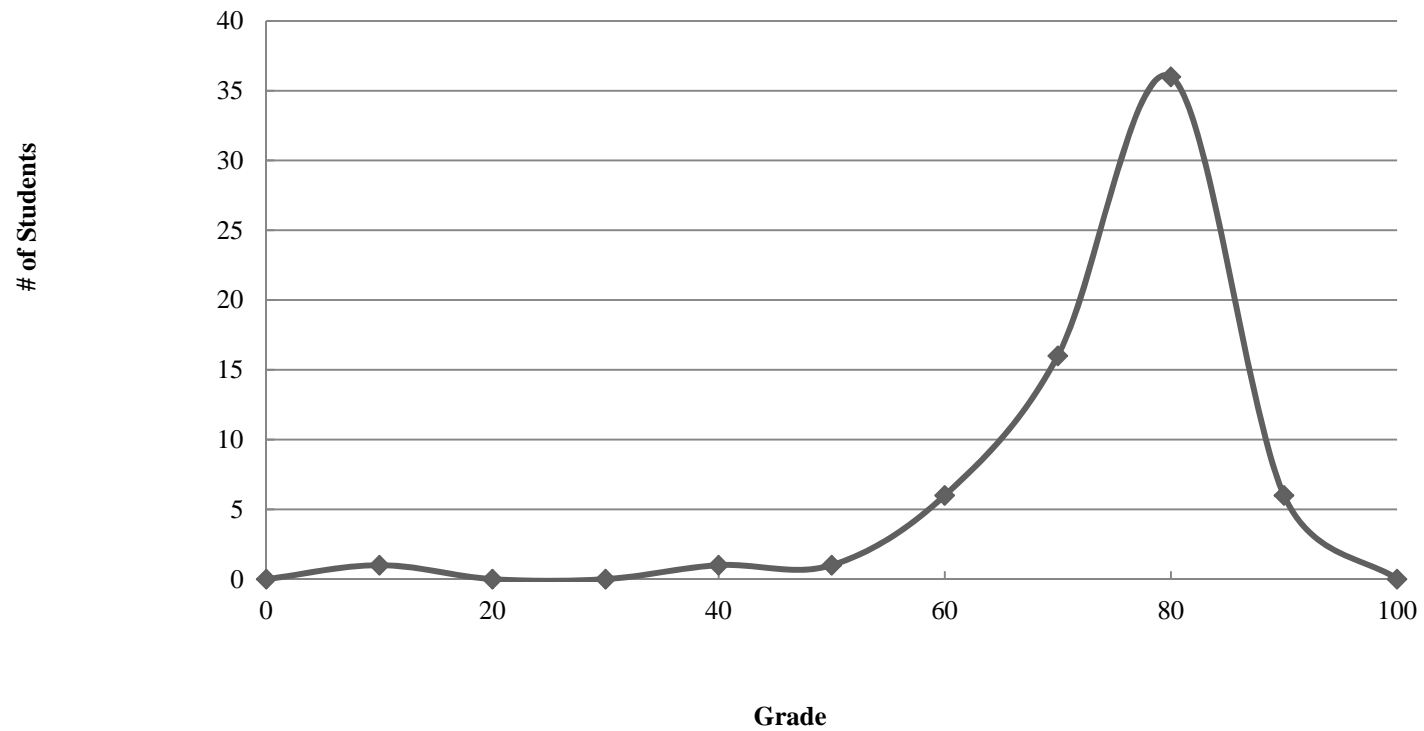




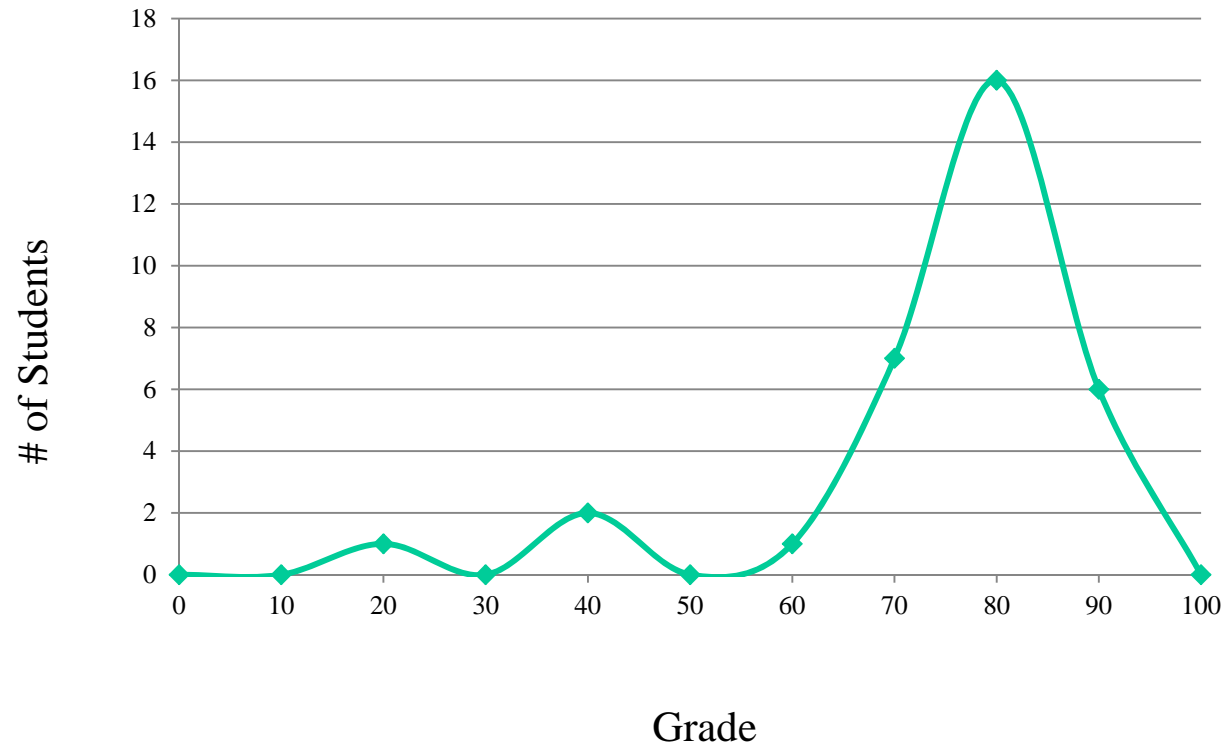




Semester Grade Histogram - 2008 Fall



Semester Grade Histogram - 2009 Fall



Today

The Class Admin

The Overview

Roadmap

- **The essentials**
- Administrative Information
- Content
 - Course objective and scope
 - Syllabus
- Your responsibility
 - Homework
 - Exams
 - Class participation
- Grading policy
- Class material

The Essentials

- Course page
 - <http://nslab.ee.ntu.edu.tw/courses/intro-cn-fall-12/>
- Polly Huang
 - <http://cc.ee.ntu.edu.tw/~phuang>
 - Click the ‘Teaching’ link
 - Then, click the ‘Fall 2012, Introduction to Computer Networks’ link

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Lecture Info

- Location
 - BL-114
- Time
 - Thursday, 9:10-12:10
 - 2 breaks
 - 10:00-10:20
 - 11:10-11:20
 - Please note that during the breaks the priority goes to the calls of nature. Questions will be addressed afterwards

The Instructor

- Polly Huang
 - Office: BL, Room 613
 - Phone: 3366-3599
 - Email: huang.polly@gmail.com
 - Homepage: <http://cc.ee.ntu.edu.tw/~phuang>

Office Hour

- Thursday 12:30-2:00
- By appointment

The TA

- Yang-Chun Su
 - Office: BL-621
 - Phone: 3366-3700 x6621
 - Email: r00921050@ntu.edu.tw

Prerequisite

- Introduction to Computer Programming (must)
- Introduction to Computers (must)
- Data Structure and Programming Language (preferred)

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Nature

- An **introductory** course on data networks
- For entry-level students

Objectives

- Knowing the existence and the components of the Internet (**what**)
- Examining the mechanisms running in various components (**how**)
- Understanding the nature of the problems these mechanisms are trying to solve (**why**)

Scope

- The data network, a.k.a. the Internet
- By the layers
 - Application Layer, Transport Layer, Network Layer, Link Layer
- By the common functions across layers
 - Mobile Wireless Networking, Multimedia Networking

Syllabus: 1st Half

- 01 09/13 Class Admin, Overview
- 02 09/20 Overview
- 03 09/27 Overview
- 04 10/04 Application Layer: Web/HTTP, FTP
- 04 10/06 Application Layer: SMTP, DNS, P2P
- 05 10/11 Application Layer: Unix Socket Programming
- 06 10/18 Transport Layer: UDP, Reliable transfer
- 07 10/25 Transport Layer: TCP error recovery
- 08 11/01 (Travel, No Class)
- 09 11/08 **Midterm Examination**

Syllabus: 2nd Half

- 10 11/15 Transport Layer: TCP congestion control
- 11 11/22 Network Layer: Routing Principle
- 12 11/29 Network Layer: Routing Principle II
- 13 12/06 Network Layer: IPv4
- 14 12/13 Network Layer: IPv6, Multicast Routing
- 15 12/20 Link Layer: MAC
- 16 12/27 Link Layer: Ethernet
- 17 01/03 Link Layer: Hub, Switch & Bridge
- **18 01/10 Final Examination**

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Homework Assignments

- 2 essay assignments
- 4 practical assignments
 - Unix and socket programming exercises
- Submission all in electronic format
- **Absolutely no late assignments**

Practical Assignments

- PA1: Basic Unix commands
- PA2: Unix socket web server stage 1
 - A Simple Echoer
- PA3: Unix socket web server stage 2
 - A Simple HTTP 1.0 Command Interpreter
- PA4: Unix socket web server stage 3
 - A Simple HTTP 1.0 Web Server

Exams

- **1 Midterm**
- **1 Final**
- In Q&A form
- Old exams (7 years) available from the class page

Class Participation

- Any in-class or **off-class** interaction counts
 - Remember to state your **name**
 - Make sure I note you down
- Off-class interaction includes
 - Coming to the office hour
 - Interacting over FB

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Grading

- Homework
 - Essay assignments (10%)
 - Practical assignments (20%)
- Midterm (30%)
- Final (30%)
- Class participation (10%)

Integrity

- Shall there be any cheating behavior involved
 - You receive 0 for the grade
 - The case reported **to the department and the university**

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Class Material

- Textbook

Computer Networking: A Top-Down Approach, **6/e**

James F. Kurose & Keith W. Ross

Addison Wesley, ISBN 0132856204

- Local carrier

歐亞 Eurasia Book Co.

Tel: 02-8912-1188, FAX: 02-8912-1166

Additional Material

- Lecture slides in pdf format
- Past lecture recordings in mp3 format
 - Available from past years' course website
- Past Lecture video recording
 - Available from 2008's course website
- All available from the course page

Questions?

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Quiz #1

- Can you write me email in Chinese?
- Can you ask questions in class in Mandarin?
- Can you answer your exam questions in Chinese?
- Can you turn in homework written in Chinese?