

Communication and cooperation

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My office is room 111 in the Electronic Information School administration building. No appointment is necessary.

This part of your course is about communication and cooperation.

“Communication” means we will ask how computer processes can communicate with each other.

- Over a network
- Within one machine
- By sending messages
- By sharing memory

“Cooperation” means we will ask how multiple agents can use communication to cooperate to achieve a common goal.

- How to cooperate safely
- How to avoid getting stuck
- How to build objects that can be shared
- How to cooperately efficient

Rough outline:

- Day 0 (Tuesday June 7). Computer networks
- Day 1 (Sunday June 12). Network application programs
- Day 1 (continued). Multithreading
- Day 2 (Tuesday June 14) Writing concurrent programs
- Day 3 (Thursday, June 16) Creating sharable objects

Recommended reading:

- Chapters 11 and 12 of Bryant and O'Hallaron, *Computer Systems: A Programmers Perspective*, 2nd edition.
- Read the English edition if possible.
- Otherwise, read the Chinese edition.

Where to learn more

- Stevens and Rago, *Advanced Programming in the UNIX Environment*, 3rd edition.
- Gregory Andrews, *Foundations of Multithreaded, Parallel, and Distributed Programming*.

Dr. Norvell's rules

- If you want me to repeat something in the same words, you should ask.
- If you want me to explain something again in different words, you should ask.
- If I use a word you don't know, you should ask me what it means.
- If there is anything you don't understand, you should

let me know right away.

- If you have any questions, you should ask them.

Website:

- The website for this part of the course is at
<http://www.engr.mun.ca/~theo/Courses/ComputerSystems>