IT2015: Introduction to Computer Science / 計算機概論

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Fall 2021 Syllabus

This is an introductory computer science course for CS undergraduate students. The students will get a big picture of computer science. The essential and fundamental technical principles in computer science including, basic knowledge about computer, data manipulation & abstraction, computer architecture, organization, software, operating system, database, network will be introduced. And the students will also gain the ability to solve problems with C/C++ using modern development tools, such as Google Cloud Platform, Google Cloud Shell Editor and Git repository.

Topics

Course description This course is an introduction to computer science, with the emphasis on programming in the high level programming language C/C++. Topics include:

- Foundations of Computer Science:
- The Shapes of Computers Today
- Computer Organization
- Operating system
- Networking & The Internet
- Software Engineering
- Database Systems
- Artificial Intelligence
- Theory of Computation
- Google Cloud Platform/Cloud Shell Editor (gcc/g++/Makefile)
- Google Cloud Platform/Cloud Source Repositories (git)
- C/C++ Programming

Textbook

1. J. Glenn Brookshear, Computer Science: An Overview 13/e
2. Walter Savitch, "Absolute C++, Global Edition" Sixth Edition

Reference Book

1. Behrouz A. Forouzan, "Foundations of Computer Science," 4/e, 2018
2. Deitel & Deitel, C How to Program 8th Ed., Prentice Hall

Grading

Your course grade will be determined approximately as follows:

- 25%: Mid-term exam
- 25%: On-line programming exam (Final exam)
- 20%: Group Score + Quizzes
- 30%: Exercises + Lab Time