Introduction to Information Technology 2

YAMADA, Satoshi

1. Course Description

All computers perform their required processes by means of executing programs. Programs are written in programming languages such as the BASIC language (an interpreted language) and the C language (a compilable language). The understanding of programming languages and the ability to write programs are essential requirements for science and engineering students. In this course, the aim is to learn basic programming (the writing of programs) using the C language (a compilable language), which features fast program execution speed, excellent portability, and versatility.

2. Course Objectives

In this course, the aim is to learn basic programming (the writing of programs) using the C language (a compilable programming language), which features fast program execution speed, excellent portability, and versatility.

3. Grading Policy

Performance is evaluated based on in-class quizzes (70%) and periodic examinations (30%).
Overall feedback is provided and test answers are explained during the final lecture.

4. Textbook and Reference

Textbook
Textbook: 大石弥幸、朝倉宏一　共著　『例題で学ぶ　はじめてのC言語　改訂増補版』　ムイスリ出版（株）
ISBN978-4-89641-270-3
Course material: We will use Microsoft Visual Studio 2016, which is installed in the CL room.

5. Requirements(Assignments)

Before class: Read in advance the scope of the next lecture in the designated textbook, and sort out the points that you do not understand or have issues with before attending the class. (1 hour)
After class: Try solving the questions (drill) at the end of the chapter in the designated text book when we finish each chapter in class. (2 hours)

6. Note

Since an explanation of the source code that will be created during each class will be given at the start of the class (such as an explanation of the syntax and functions that will be used in the source code), take great care to avoid being late.

7. Schedule

[1]   Programs (what is a program, compilers, what is the C language, actually creating a program in C)

[2]   Basics of C (basics of writing programs, displaying strings)

[3]   Using variables, input and output (numerical constants, variables, number of display digits of numbers, numerical input from the keyboard)

[4]   Branches (branches using if)

[5]   Branches (branches using switch-case)

[6]   Loops (loops using while)

[7]   Loops (loops using do while)

[8]   Loops (loops using for)

[9]   Loops (break and continue)

[10]   Arrays (1-dimensional arrays)

[11]   Arrays (2-dimensional arrays)

[12]   Characters and strings (character encodings, strings)

[13]   Functions (standard functions and header files)