# SYSTEM SOFTWARE

Jo, Heeseung

### Class Materials

#### https://cslab.cbnu.ac.kr

- http://software.cbnu.ac.kr > 학과소개 > 교수진소개 > 조희승
- Check "Notice" and "Schedule" before every class
  - Everything will be posted
- Class materials will be updated frequently
  - After class it might be finalized

#### Instructor

- Jo, Heeseung (heesn@cbnu.ac.kr)
- https://cslab.cbnu.ac.kr
- Room#327, S4-1 Bldg.
- Tel: 043-261-3757
- The best way to contact me is via email

## Course Description

In this course, we will study the lower concepts of computer systems through assembly language

Especially, from the perspective of programmer, we will focus on assembly programming language and how a computer launches applications and stores information

#### Topics & Materials

Course outline

Representing and Manipulating Integers

Representing and Manipulating Floating Points

Byte Ordering

Machine-level Representation of Programs

Introduction to IA-32

Assembly I Basic Operations

Assembly II Control Flow

Assembly III Procedures

Assembly IV Complex Data Types

Buffer Overflow

Linking

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### Prerequisites

#### Prerequisites

C language

You should be familiar with the followings:

- Basic computer organization
- Computer architecture
- Data structure and algorithm understanding
- C programming skills
  - Data type, basic statement, I/O functions
  - Array, pointer, memory allocation, structure

## Time Table

2025년 일반 2학기, 성명 : 조희승 출력일시 : 2025-08-25 12:04:13

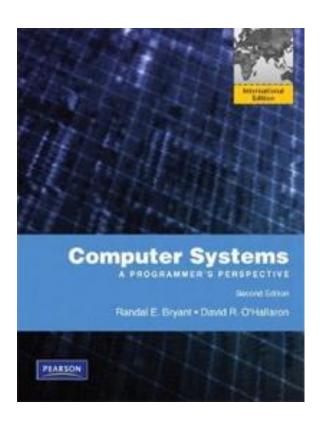
| 2025년 일반 2학기, 성명 : 조희승 2025-08-25 12:04:13 |                         |                   |                         |   |       |
|--|-------------------------|-------------------|-------------------------|---|-------|
| ᇒ  | 월                       | 화                 | 수(50)                   | 목 | 금(50) |
| 50   | 2                       | <u> </u>          | 7(30)                   |   | B(W)  |
| 0교시  |                         |                   |                         |   |       |
| 08:00                                      |                         |                   |                         |   |       |
| ~<br>08:50                                 |                         |                   |                         |   |       |
| 1교시  | 시스템소플트웨어특               |                   |                         |   |       |
| ·  | 론<br>8836530-01         |                   |                         |   |       |
| 09:00<br>~                                 | 조희승                     |                   |                         |   |       |
| 09:50                                      | S4-1-222(21-222)<br>1교시 |                   |                         |   |       |
| 2교시  | 시스템소프트웨어특<br>로          |                   |                         |   |       |
| 10:00                                      | 8836530-01              |                   |                         |   |       |
| ~  | 조희승                     |                   |                         |   |       |
| 10:50                                      | S4-1-222(21-222)<br>2교시 |                   |                         |   |       |
| 3교시  | 시스템소프트웨어특<br>론          |                   |                         |   |       |
| 11:00                                      | 8836530-01              |                   |                         |   |       |
| ~  | 조희승<br>S4-1-222(21-222) |                   |                         |   |       |
| 11:50                                      | 3교시                     |                   |                         |   |       |
| 4교시  |                         |                   |                         |   |       |
| 12:00<br>~                                 |                         |                   |                         |   |       |
| 12:50                                      |                         |                   |                         |   |       |
| 5교시  | 산학프로젝트(종합<br>설계)        | 서버프로그래밍           |                         |   |       |
| 13:00                                      | 5118024-01              | 5120017-01<br>조희승 |                         |   |       |
| ~  | 조희승<br>S4-1-204(21-204) | S4-1-206(21-206)  |                         |   |       |
| 13:50                                      | 5교入                     | 5교시               |                         |   |       |
| 6교시  | 산학프로젝트(종합<br>설계)        | 서버프로그래밍           |                         |   |       |
| 14:00                                      | 5118024-01              | 5120017-01<br>조희승 |                         |   |       |
| ~<br>14:50                                 | 조희승<br>S4-1-204(21-204) | S4-1-206(21-206)  |                         |   |       |
| 14.30                                      | 6교시<br>산학프로젝트(종합        | 6교시               |                         |   |       |
| 7교시  | 설계)                     |                   | 시스템소프트웨어<br>5118015-01  |   |       |
| 15:00                                      | 5118024-01<br>조희승       |                   | 조희승                     |   |       |
| ~<br>15:50                                 | S4-1-204(21-204)        |                   | S4-1-106(21-106)<br>7교시 |   |       |
|  | 7교시<br>산학프로젝트(종합        |                   | -                       |   |       |
| 8교시  | 설계)                     |                   | 시스템소프트웨어<br>5118015-01  |   |       |
| 16:00                                      | 5118024-01<br>조희승       |                   | 조희승                     |   |       |
| ~<br>16:50                                 | S4-1-204(21-204)        |                   | S4-1-106(21-106)<br>8교시 |   |       |
| 9교시  | 8교시<br>서버프로그래밍          |                   | 시스템소프트웨어                |   |       |
| ·  | 5120017-01              |                   | 5118015-01              |   |       |
| 17:00<br>~                                 | 조희승<br>S4-1-206(21-206) |                   | 조희승<br>S4-1-106(21-106) |   |       |
| 17:50<br>10교人                              | 9교시<br>서버프로그래밍          |                   | 9교시                     |   |       |
|  | 5120017-01              |                   |                         |   |       |
| 18:00                                      | 조희승<br>S4-1-206(21-206) |                   |                         |   |       |
| 18:50                                      | 10교人                    |                   |                         |   |       |
| 11교시                                       |                         |                   |                         |   |       |
| 19:00                                      |                         |                   |                         |   |       |
| ~<br>19:50                                 |                         |                   |                         |   |       |

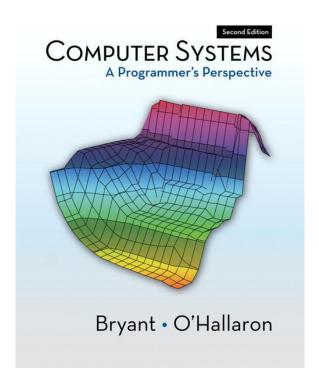
### Textbook

### Most class materials will be provided

Computer Systems: A Programmer's Perspective

Randal E. Bryant and David R. O'Hallaron, Prentice Hall, Inc.





## Grading

### Grading ratio

- Exams: 90% (two or three exams)
- Homework, etc.: 10%

### No cheating

- Sharing or copying of solutions is not allowed
- Of course, cooperation on exams is not allowed
- Definitely F + alpha

### Attendance Policy

#### Do not be late!

You should be present when I take class attendance

You can miss the class up to "three" times without any penalty

More than 3 times, then D

#### Reserved Seat in Class

- We will use reserved seat in this class for this semester
- Your seat will be reserved at the next class

## Class policy

Notebook, tablet, smartphone

Food, fluid intake

Consecutive lecture (3-hour time)

Homework

### TA

### TA

- Refer notice
- Ask helps anything !
- Homework submission
- Solving homework
- Questions about the class

### Before Start

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What is Computer?
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How does it work?

What is "data type"?

How does a C program work?

How can we write a better program code?