| Course Title | Introduction to Operation System |  |  |  |  |  |  |  |  |
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| Representative Instructor | Name | Seongsoo Hong ( |  | (post : Professor |  | Homepage | http://redwood.snu.ac.kr/~sshong |  |  |
|  | E-mail | hss@snu.ac.kr |  |  |  | Phone No. | 02-880-8357 |  |  |
| Prerequisite Course | Programming, C, Language, Algorithm, Computer Architecture |  |  |  |  |  |  |  |  |
| Course Description | The purpose of this course is to learn important concepts and theories that are indispensable for implementing an operating system (OS). Specifically, process management, scheduling, synchronization of shared resources, memory management/virtual memory, input/output management system, and storage/file systems are studied. OS is the most essential system software that drives a computer system. As the development of time-sharing OS started in the mid-1960s, OS technology developed greatly, and now the academic system has been completed. As a result, the OS performs the role of a runtime platform that smoothly executes various users' application programs beyond the function of a simple hardware resource manager. From an industrial point of view, the OS forms an ecosystem of apps to provide the highest convenience and usefulness to users. Therefore, it is impossible to have a professional understanding of a computer system without knowledge of the OS. |  |  |  |  |  |  |  |  |
| Textbook | Operating System Concepts (Paperback, 10th Edition) / Abraham Silberschatz, Peter B. Galvin, Greg Gagne / Wiley / ISBN:978-1-119-58616-6 |  |  |  |  |  |  |  |  |
| Evaluation Method | Attendance | Task | Medium | Final | Rando | dom Evaluation | Attitude | Other | Total |
|  | 0 | 30 | 35 | 35 |  | 0 | 0 | 0 | 100 |
|  | Note |  |  |  |  |  |  |  |  |
| Lecture Contents | 1 Week |  | Introduction to OS |  |  |  |  |  |  |
|  | 2 Week |  | Review of Computer Hardware |  |  |  |  |  |  |
|  | 3 Week |  | Stack and Dynamic Memory Allocation of Local Variables |  |  |  |  |  |  |
|  | 4 Week |  | Processes and Threads |  |  |  |  |  |  |
|  | 5 Week |  | CPU Scheduling |  |  |  |  |  |  |
|  | 6 Week |  | Process Synchronization |  |  |  |  |  |  |
|  | 7 Week |  | Deadlock |  |  |  |  |  |  |
|  | 8 Week |  | GNU Linker |  |  |  |  |  |  |
|  | 9 Week |  | Dynamic Memory Allocation |  |  |  |  |  |  |
|  | 10 Week |  | Segmentation and Paging |  |  |  |  |  |  |
|  | 11 Week |  | Demand Paging |  |  |  |  |  |  |
|  | 12 Week |  | I/O Devices and Device Drivers |  |  |  |  |  |  |
|  | 13 Week |  | Files and Directories |  |  |  |  |  |  |
|  | 14 Week |  | File System |  |  |  |  |  |  |

