

Syllabus [2025Year 2 Term]

Course Information

Course Title	Systems Programming	Credits	3
Course Code	366850-5	Required/Elective (For Undergraduate Courses)	Mandatory Major
Department or Major	Department of Mobile Systems Engineering	Language	English
Methods of Teaching		Lecture Room	월4,5,6/수1,2,3(국제506)
Time Allotment	Lecture(3) Experiments(0) Trainging & Practice(0) Performance(0) Designing & Planning(0)	Cyber Lectures	
Course Type	offline		
Cyber Lectures Preview			

Lecturer

Lecturer	Name	Yoo, Seehwan	Rank	Associate Professor	Final Academic Degree	이학박사
	Department & college	Organization for SW-Centric University		Office	International Hall 615	
	Office Phone Number	031-8005-3240		e-mail	seehwan.yoo@dankook.ac.kr	
	Field of Interest					

Course Summary

Course Description	This course gently introduces computer system and systems programming. With the basic knowledge of application-level programming language, we will be getting deeper into a computer system, breaking the programming abstractions. Main topics will be 'SW programming and computational problems' 'the execution engine' of a computer, and abstractions that make your text file to run on a computing machinery.
Description Related Courses	Basic C programming skill is required. In the next semester, 'computer architecture and mobile processor' is closely related with this course.
Course Goals	Learn how a computer is organized, Learn how a computer operates, Learn what system software is, and how it operates on hardware and software boundary Learn what can a computer do/and what not.

Projected Results	The students will get some knowledge of the general aspect of computing systems. How software is developed and operates on bare hardware understand some computational problems, and write a simple procedure to resolve a problem. MIPS assembly programming will be required.
Percentage of the original language classes(%)	
Cyber Lectures P review	

Syllabus

Times	Lecture Topic	Lecture Goals	Lecture Methods	Assignments
1	Class overview	Introduction account settings	Lecture Lab	na na
2	Computer basic.	Learn how to read/write in Linux console Linux history & programming environment	Lab Lecture	na na
3	Hardware systems	pictorial understanding of computer hardware	Lab Lecture	na na
4	CPU, memory	Von neumann architecture, addressing,	Lab Lecture	- prog. assignment na
5	I/O bus, devices, networking	Storage, GPU, i/o modes, performance	Lab Lecture	- prog. assignment na
6	software system	abstraction layers (hardware/software interface), compiler	Lecture Lab	na - prog. assignment
7	mid-term mid-term			na na
8	System software	compiler, editor, linker, and more	Lecture Lab	na - final project announcement simple Editor
9	Application software and algorithm	Applications and algorithms	Lecture Lab	na na
10	Big data and Application software: algorithm	Algorithm and time complexity OS, architecture, applications	Lecture Lab	na na
11	computer's language	computer's language	Lecture Lab	na - prog. assignment
12	programming languages - theory programming languages - practice	programming languages - nfa/dfa functional programming languages - Lisp II	Lecture Lab	na - prog. assignment
13	programming languages - theory programming languages - practice	programming languages - regular expressions	Lecture Lab	na na

Times	Lecture Topic	Lecture Goals	Lecture Methods	Assignments
	ctice	ssion functional programming language s – Lisp III		
14	programming languages – theory final project summary	programming languages – context free grammar, turing machine project presentation	Lab	na
15	final project summary	project presentation	Lab	na

Methods of Grading

sequence	Description	Percentage	Details
1	Mid-tem Exam	35%	MIPS assembly programming
2	Final-exam	45%	Racket programming
3	Pop Quizzes	0%	
4	Assignments	5%	학기말 과제
5	Reports	0%	
6	Presentations & Discussions	0%	
7	Attendance	10%	
8		0%	
9	Others	5%	수업 참여 등
All		100%	

Core of Value

핵심가치	전공역량	역량정의	역량구분	값(%)
혁신 (Discovery)	창의적문제해결 (Creative problem-solving)	주어진 상황과 문제를 창의적으로 해결할 수 있는 능력		0%
혁신 (Discovery)	도전 (Challenging)	전공 지식을 새로운 분야와 융합하고 아우를 수 있는 능력		0%
혁신 (Discovery)	지식융합 (Knowledge convergence)	새로운 분야를 개척하거나 도전적으로 임할 수 있는 능력		0%
헌신 (Dedication)	세계시민 (Universal value)	세계 공동체 구성원으로 전공자로서 국제적 이슈에 대응할 수 있는 능력		0%
헌신 (Dedication)	상호협력 (Cooperation)	공동의 목적 달성을 위해 타인과 상호협력을 할 수 있는 능력		0%

핵심가치	전공역량	역량정의	역량구분	값(%)
헌신 (Dedication)	공동체 (Sense of community)	공동체의 구성원으로서 필요한 태도와 윤리의식을 가질 수 있는 능력		0%
능동 (self-Determination)	자기주도 (Self-Managing)	주어진 상황과 문제를 주도적이고 능동적으로 해결할 수 있는 능력	부역량	0%
능동 (self-Determination)	지식활용 (Knowledge application)	주어진 상황과 문제에 대해 논리적으로 파악하고 분석할 수 있는 능력	부역량	0%
능동 (self-Determination)	논리적사고 (Logical thinking)	전공관련 지식을 필요에 따라 다양하게 적용하고 활용할 수 있는 능력	주역량	0%
능동 (self-Determination)	의사소통 (Articulation)	대화를 통해 다양한 의견을 조율하고 합의를 이끌어 낼 수 있는 능력		0%

Textbook(s) & References

Description	Title	Author	Publisher
Recommended Textbook	UNIX 시스템 프로그래밍 (2판)	조유근	홍릉
Required Textbook	Computer Systems: A programmers perspective	Bryant & O'Hallaron	Pearson

Memo

this course goes with lab classes and lectures. Stay tuned on portal site.