2024Year 2nd Semester Syllabus

Created Date	2024-08-14 10:33:18	Last-Modified	2024-09-26 13:24:29
Course Title	DATA STRUCTURE AND ALGORITHMS	Course Code-Section	EEE2020-01
Credit/Time/ Experiment,Lab,Practical Technique Time	3/Tue7,Thu6,7	Department	Electrical and Electronics Engineering
Time	Tue7,Thu6,7	Location	EngHB039
Exam Date & Time	Midterm exam	Final exam	
Class Language	English	Evaluation Type	Absolute evaluation

Instructor's Profile	Name	Kim Jongyoo	Contact Information	Telephone	02-2123-2869
	Department	전기전자공학부		Mail	JY.KIM@YONSEI.AC.KR
	Office	MMAI Lab		Interview information	Thursday from 9-11 AM or by appointment.

TA's Name & Contact Information	Name	김재훈	Contact Information	Telephone	

Course Description Brief Introduction of the Course	In this course, we explore key data structures and algorithms using the C++ language. The curriculum starts with an introduction to C and C++ programming, including arrays, pointers, structures, and classes. We then cover various data structures, including array lists, linked lists, queues, stacks, and more. Additionally, we discuss important algorithms, such as sorting and searching techniques. The course includes C++ programming assignments and projects. * Please note that the course is taught using the C++ language. * The audience is assumed to be familiar with basic programming concepts. * 본 강좌는 PBL (Project-Based Learning) 기반으로, 학습자 중심의 학습이며 학습자의 문제해결을 중심으로 한다. 수강생들은 프로젝트 목표를 달성하기 위해 직접 분석적이고 비판적으로 사고해야 한다. * This course is based on Project-Based Learning (PBL), focusing on learner-centered education and problem-solving by the learners. To achieve the project goals, students must engage in analytical and critical thinking directly.			
Course Goals	1.	Korean	C++ 프로그램 언어 이해	30%
		English	Understand C++ programming language and its features	
	2.	Korean	다양한 자료구조 및 알고리즘 이해	35%
		English	Understand various data structures and algorithms such as sorting, searching, trees and graphs	
	3.	Korean	각 자료구조 및 알고리즘의 성능 분석	35%
		English	Performance analysis on each data structure and algorithm	
	4.	Korean		0%
		English		
	5.	Korean		0%

		English		
Core Competencies	The total measurable competencies must be 100%. Each course objective should set the competency as 25%. The core and major competencies should equal at least 50%.			
	Logical Thinking 50%	Basic Academic Ability 30%	Problem-solving Ability 20%	
Sub-Competencies/Learning Unit1				
Sub-Competencies/Learning Unit2				
Sub-Competencies/Learning Unit3				
Core Competencies(Liberal Arts)Major competency(	**Must reflect the interrelationship between core competencies (elective courses) and major competencies (major studies).**			
Logical Thinking				
Sustainable Development Goals				
Average Recommended Amount of Learning per	Average Reading Volume		Average amount of writing(Based on A4)	

Course Methods (%) Total Amount 100	Lecture	Practice Training	Presentation	Dabate	Team Project
	85%	5%	10%	0%	0%

Course Methods 2 Select Relevant Items	PBL Subject	Capstone Design	CBL, Social Innovation Course	Flipped Classroom	Work Experience,Internsh

Grading Policy(%) Total Amount 100 Free Input for Other Information	Midterm exam	Final exam	Quiz	Individual Assignment	Team Assignment	Attendance	Others
	25%	25%	0%	40%	0%	10%	0%

Assignment/ Report, Project Guide	Title of Assignment/Project Name, and Method of Filling Out	Submission Deadline	Type of Submission and Method

Prerequisite	Introduction to C/C++ programming	Online Course Address	

Course Material	Course Material Name	Author	Publisher	Publish Year	ISBN

Main Learner Precautions	Please note that the course is taught using the C++ language. The audience is assumed to be familiar with basic programming concepts.
Attatchment	

Weekly Plan

week	Period	Weekly Topic & Contents	Remarks
1	2024-09-02 2024-09-08	Course overview & Introduction to C++ programming	(9.2.) Fall semester classes begin (9.4. - 9.6.) Course add and drop period
2	2024-09-09 2024-09-15	Introduction to C++ programming	
3	2024-09-16 2024-09-22	Introduction to C++ programming	(9.16. - 9.18.) Chuseok Holidays 09.16 추석, 09.17 추석, 09.18 추석
4	2024-09-23 2024-09-29	Struct & Class	
5	2024-09-30 2024-10-06	Constructor & Destructor	(10.3.) National Foundation Day 10.03 개천절
6	2024-10-07 2024-10-13	Array List	(10.8.) First third of the semester ends (10.9.) Hangul Proclamation Day 10.09 한글날
7	2024-10-14 2024-10-20	Linked List	
8	2024-10-21 2024-10-27	Midterm Exam	(10.21. - 10.27.) Midterm Examinations
9	2024-10-28 2024-11-03	Inheritance, Polymorphism	(10.28. - 10.30.) Course withdrawal period (10.31. - 11.1.) Application Period for S/U evaluation
10	2024-11-04 2024-11-10	Queue and Stack	
11	2024-11-11 2024-11-17	Student Project Presentation	(11.14.) Second third of the semester ends
12	2024-11-18 2024-11-24	Trees	
13	2024-11-25 2024-12-01	Sorting	
14	2024-12-02 2024-12-08	Operator Overloading	
15	2024-12-09 2024-12-15	Self-study	(12.9. - 12.15.) Self-study
16	2024-12-16 2024-12-22	Final Exam	(12.16. - 12.22.) Final Examinations

• Students with disabilities(SWDs) can request accommodations related to lectures, assignments, or tests by contacting the course professor at the beginning of semester.
(However, accommodations may vary depending on the essentiality of lecture and discretion of professors.)

[Lecture]

- Visual Impairment: alternative, braille, enlarged reading materials, note-taker

- Physical Impairment: alternative reading materials, access to classroom, note-taker, assigned seat
- Hearing Impairment: note-taker/stenographer, recording lecture
- Intellectual Disability/Autism: note-taker

[Assignments and Test]

- Visual/Physical/Hearing Impairment: (reasonable) extra days for submission, alternative type of assignment, extended test time, alternative type of test, arranging separate test room, and proctors, test ghostwriter
- Intellectual Disability/Autism: (reasonable) extra days for submission, alternative type of assignment