Extended Syllabus

(2024 2nd Semester)

Course Title	JAVA언어	**Course Number**	CSE3040 / AIE3052
Credit	3 학점	**Enrollment Eligibility**	2,3,4학년
Class Time	수,금 15:00~16:15	**Classroom**	추후 공지

Name: 김주호 | **Homepage: cslab.sogang.ac.kr**

E-mail: jhkim@sogang.ac.kr | **Telephone: 02-705-8927**

Office: R906A

Office Hours: 메일로 면담 시간 예약

I. Course Overview

1. Description

Introduction to object-oriented programming using the Java programming language.

The course covers Java applications and applets, GUI, graphics, network and introduction to object- based programming.

2. Prerequisites

No pre-requisite

3. Course Format (%)

Lecture	Discussion	Experiment/Practicum	Field study	Presentations	Other
100%	%	%	%	%	%

4. Evaluation (%)

mid-term Exam	Final exam	Quizzes	Presentations	Projects	Assignments	Participation	Other
20%	25%	10%	%	25%	20%	%	%

II. Course Objectives

- Explain the functioning of a computer as an electronic system for input, processing, memory, storage, output and communication of information and data.
- Differentiate hardware and software.
- List or identify and explain the major hardware and software components of a computer system and their interaction to produce a working system.
- Explain hardware components such as CPU, RAM and ROM memory, secondary storage devices, and I/O and communication components.
- Differentiate system software, application software and operating systems.
- Differentiate software, program and programming language.
- Differentiate and classify languages as low and high level languages.
- Differentiate machine language and assembly language.
- Compare features and strengths of popular programming languages such as C, C++, Java, JavaScript, and Visual Basic

III. Course Format

(*Indetail)

- Compile and run a Java application.
- Understand the role of the Java Virtual Machine in achieving platform independence.
- Navigate through the API docs.
- Use the Object Oriented paradigm in Java programs.
- Understand the division of classes into Java packages.
- Use Exceptions to handle run time errors.
- Use threads in order to create more efficient Java programs.

IV. Course Requirements and Grading Criteria

- Mid-term exam (1)
- Final exam (1)
- Quiz
- Projects
- Assignment

V. Course Policies

- If you need some help from physical handicapped, please let me know it by e-mail.
- States that syllabus is tentative, and subject to change according to the needs and interests of the class.

VI. Materials and References

- Lecture notes on course website (http://cslab.sogang.ac.kr)
- Gary Cornell, Cay Horstmann, Core JAVA, SunSoft Press, 2007

VII.Course Schedule

(* Subject to change)

Week 1	Learning Objectives	Introduction to JAVA
	Topics	Overview Java language and its background.
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 1
	Assignments	
	Learning Objectives	Println, Random, and Control flow

Week 2	Topics	Simple input output and control flow in Java.

	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 2
	Assignments	
Week 3	Learning Objectives	Basic operation, Data Type
	Topics	primitive data types and basic operations
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 4
	Assignments	
Week 4	Learning Objectives	Variables, constants and array
	Topics	variables, constants, array, string
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 3
	Assignments	
Week 5	Learning Objectives	Class I, Quiz 1
	Topics	Parameter transmission between methods, method overloading. keywords about static, public, private
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 4
	Assignments	

Week	Learning Objectives	Class II

6	Topics	Parameter transmission between methods, method overloading. keywords about static, public, private
	Class Work (Methods) Materials (Required Readings)	LECTURE CHAP 4
	Assignments	
Week 7	Learning Objectives	Class III
	Topics	OOP, encapsulation, inheritance, polymorphism, interface, package
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 4
	Assignments	
Week 8	Learning Objectives	Midterm Exam
	Topics	Midterm Exam
	Class Work (Methods) Materials (Required Readings)	Midterm Exam Midterm Exam
	Assignments	Midterm Exam
	Learning Objectives	GUI Programming I/ II
	Topics	Make window using Frame, Layout. drawing pictures

Week 9	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 5

	Assignments	
Week 10	Learning Objectives	Applet, Internet
	Topics	Applet, Internet
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 6
	Assignments	
Week 11	Learning Objectives	Thread, Exception
	Topics	Exception handling, thread, multitasking
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 7
	Assignments	
Week	Learning Objectives	Data structure
	Topics	Data structures and algorithms
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	CHAP 8

12	**Assignments**	
Week 13	**Learning Objectives**	I/O & Networking
	Topics	Various I/O using java.io package and network programming using java.net package

	Class Work (Methods)	LECTURE
	Materials (Required Readings)	**CHAP 9**
	Assignments	
Week 14	**Learning Objectives**	Java Open Source Software
	Topics	Open-source license & community
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	**CHAP 10**
	Assignments	
Week 15	**Learning Objectives**	Android Programming
	Topics	Android feature & architecture
	Class Work (Methods)	LECTURE
	Materials (Required Readings)	**CHAP 11**
	Assignments	
Week 16	**Learning Objectives**	Final Exam
	Topics	Final Exam
	Class Work (Methods)	Final Exam
	Materials (Required Readings)	**Final Exam**
	Assignments	Final Exam

VIII.Special Accommodations