![이화여자대학교 EWHA WOMANS UNIVERSITY]

Syllabus (2026-Summer)

Course Title	Data Science	Course No.	39142-01
Credit	3 credits	Hours	45 Hours
Class Time Classroom			
Instructor	Name Hyunsoo Cho	Department	Artificial Intelligence
	E-mail chohyunsoo@ewha.ac.kr	Phone	
Office Hours Office Location			

I. Course Overview

1. Course Description

This course explores various forms of data that exist in the real world and the corresponding methods to deal with each data format. The curriculum covers the following contents: 1) Understanding the diverse types of data, 2) Techniques for data visualization and analysis, and 3) Case studies and applications in real-world services. The course covers data processing methodologies ranging from traditional techniques to the latest in machine learning technologies, incorporating practical mathematical knowledge and coding skills to enhance problem-solving abilities.

2. Prerequisites

Basic python programming, basic statistics.

3. Course Format

Lecture	Discussion/Presentation	Experiment/Practicum	Field Study	Other
70%	10%	20%	0%	0%

4. Course Objectives
- Understanding of mining techniques for various data types.
- Theoretical understanding of data visualization and analysis methods
- Enhancement of practical problem-solving skills through programming.

5. Evaluation Systems

□ Relative evaluation ■ Absolute evaluation (for Ewha International Summer College students only) □ Others

Midterm Exam	Final Exam	Quizzes	Presentation	Projects	Assignments	Participation	Others
45%	45%	0%	0%	0%	0%	10%	0%

II. Course Materials and Additional Readings

1. Required Materials
Lecture slides will be available for each session. (Purchasing textbook is not mandatory.)

2. Supplementary Materials
Introduction to Data Mining, Tan et al., Pearson.
Mining of Massive Datasets, Leskovec et al., Cambridge

3. Optional Additional Readings
III. Course Schedule

Day	Date	Topics & Class Materials, Assignments
Day 1	(6/29)	Course Introduction
Day 2	(6/30)	Data Science Lifecycle / Various Types of Data
Day 3	(7/1)	Basic Statistics
Day 4	(7/2)	Data Pre-processing
Day 5	(7/6)	Data Visualization
Day 6	(7/7)	Supervised & Unsupervised learning
Day 7	(7/8)	Supervised Learning – Classification
Day 8	(7/9)	Midterm Exam
Day 9	(7/13)	Supervised Learning – Regression
Day 10	(7/14)	Unsupervised Learning – Clustering
Day 11	(7/15)	Unsupervised Learning – Dimensionality Reduction
Day 12	(7/16)	Programming Tutorial Anomaly Detection
Day 13	(7/20)	Recommendation Systems
Day 14	(7/21)	Final Exam
Day 15	(7/22)	Review Session + Special lecture

IV. Special Accommodations

* According to the University regulation section #57-3, students with disabilities can request for special accommodations related to attendance, lectures, assignments, or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' request, students can receive support for such accommodations from the course professor or from the Support Center for Students with Disabilities (SCSD). Please refer to the below examples of the types of support available in the lectures, assignments, and evaluations.

Lecture	Assignments	Evaluation
. Visual impairment: braille, enlarged reading materials . Hearing impairment: note-taking assistant . Physical impairment : access to classroom, note-taking assistant	Extra days for submission, alternative assignments	. Visual impairment: braille examination paper, examination with voice support, longer examination hours, note-taking assistant . Hearing impairment: written examination instead of oral examination . Physical impairment: longer examination hours, note-taking assistant

- Actual support may vary depending on the course.

* The contents of this syllabus are not final—they may be updated.