

Syllabus for the first semester of 2022

General Information

Subject number	4199
Subject name	data mining
Consultation time	
Core Competency	You can set up principles and plans for your own learning activities and systematically practice them. Understanding various information and knowledge, identifying problems, analyzing and reasoning, and applying them to problem-solving based on this.
Lecture Goals	
Notes on course application	Students should be ready to use the R language.

evaluation rate

Item	importance(%)	perfect score	Disclosure
attendance rate	One	10	open
midterm exam rate	0	0	open
Final exam rate	0	0	open
Assignment rate	3	30	open
Quiz	0	0	open
Announcement	0	0	open
project	6	60	open
debate	0	0	open
Other 5	90	900	open

lecture material

number	Classification of textbooks	Textbook name	author	publisher	Year of publication
One	episcopal material	Lecture Notes	Sunghoon Kwon		
2	supplementary material	(Revision) Data Mining with R	Park Chang-i and 4 others	schoolmate	
3	references	Data Mining for Business Intelligence	Galit Shmueli et al.	Willy	

Lecture assignments

number	Project Title	When to submit	How to submit
One	presentation for data analysis		

Weekly syllabus

parking	period	topic	lecture content	Class type	lecture activities	Instructor in charge
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parking	period	topic	lecture content	Class type	lecture activities	Instructor in charge
One	03/02 ~ 03/08	course outline	grading policy, meeting plan, overview, empirical risk minimization	lecture	flipped learning	
2	03/09 ~ 03/15	linear regression	simple and multiple linear regression, fitting and interpretation, feature engineering	lecture	flipped learning	
3	03/16 ~ 03/22	regression assessment	goodness of fit, information criterion, prediction performance	lecture	flipped learning	
4	03/23 ~ 03/29	variable selection	best subset selection	lecture	flipped learning	
5	03/30 ~ 04/05	logistic regression	simple and multiple logistic regression, fitting and interpretation, feature engineering	lecture	flipped learning	
6	04/06 ~ 04/12	classification assessment	confusion matrix, accuracy, sensitivity, specificity, ROC, AUC	lecture	flipped learning	
7	04/13 ~ 04/19	penalized estimation	convex and non-convex penalties, tuning, the variants	lecture	flipped learning	
8	04/20 ~ 04/26	R practice	linear and logistic regression	practice	flipped learning	
9	04/27 ~ 05/03	R practice	linear and logistic regression	practice	flipped learning	
10	05/04 ~ 05/10	decision tree	tree structure, regression and classification tree, tuning, top-down algorithm	lecture	flipped learning	
11	05/11 ~ 05/17	support vector machine	margins, supporting hyperplanes, kernel tricks	lecture	flipped learning	
12	05/18 ~ 05/24	ensemble methods	bagging, random forest, and boosting	lecture	flipped learning	
13	05/25 ~ 05/31	R practice	tree, svm, ensembles	practice	flipped learning	
14	06/01 ~ 06/07	R practice	tree, svm, ensembles	practice	flipped learning	
15	06/08 ~ 06/14	Presentation	Data analysis results report	project	flipped learning	
16	06/15 ~ 06/21	Presentation	Data analysis results report	project	flipped learning	