

Tamkang University Academic Year 111, 1st Semester Course Syllabus

Course Title	DATA ANALYSIS AND PREDICTION MODE	Instructor	TSENG, YAO-TING
Course Class	TLSAM1A MASTER'S PROGRAM IN DATA SCIENCE, DEPARTMENT OF STATISTICS, 1A	Details	<ul style="list-style-type: none"> ◆ General Course ◆ Selective ◆ One Semester
Relevance to SDGs	SDG1 No poverty		
Departmental Aim of Education			
Cultivate cross-field data science analyst who integrate statistics and information science to provide effective decision-making methods and strategies in different professional fields, thereby creating the greatest application value of data.			
Subject Departmental core competences			
<ul style="list-style-type: none"> A. Data analysis ability.(ratio:30.00) B. Information application ability.(ratio:30.00) C. Logical reasoning ability.(ratio:20.00) D. Ability to integrate knowledge in various fields.(ratio:20.00) 			
Subject Schoolwide essential virtues			
<ul style="list-style-type: none"> 1. A global perspective. (ratio:10.00) 2. Information literacy. (ratio:25.00) 3. A vision for the future. (ratio:10.00) 4. Moral integrity. (ratio:5.00) 5. Independent thinking. (ratio:20.00) 6. A cheerful attitude and healthy lifestyle. (ratio:5.00) 7. A spirit of teamwork and dedication. (ratio:20.00) 8. A sense of aesthetic appreciation. (ratio:5.00) 			

Course Introduction	This course will introduce how to prepare data before building models and introduce array data skill. In addition, we will use data to build model. Finally, I also introduce SQL. This language is more popular in database.
------------------------	---

The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.

II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.

III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

No.	Teaching Objectives	objective methods
1	deal with data skill	Cognitive
2	Understand prediction model concept and try to build model	Cognitive
3	Understand SQL	Cognitive

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	ABCD	12345678	Lecture, Discussion	Discussion(including classroom and online)
2	ABCD	12345678	Lecture, Discussion	Discussion(including classroom and online)
3	ABCD	12345678	Lecture, Discussion	Discussion(including classroom and online)

Course Schedule

Week	Date	Course Contents	Note
1	111/09/05 ~ 111/09/11	Define target	
2	111/09/12 ~ 111/09/18	Category variables convert to continue	

3	111/09/19 ~ 111/09/25	Category variables convert to continue	
4	111/09/26 ~ 111/10/02	Category variables convert to continue	
5	111/10/03 ~ 111/10/09	PCA	
6	111/10/10 ~ 111/10/16	Autoencoder	
7	111/10/17 ~ 111/10/23	Variable cluster	
8	111/10/24 ~ 111/10/30	Build Model	
9	111/10/31 ~ 111/11/06	Build Model	
10	111/11/07 ~ 111/11/13	Midterm exam	
11	111/11/14 ~ 111/11/20	Presentation	
12	111/11/21 ~ 111/11/27	Presentation	
13	111/11/28 ~ 111/12/04	Presentation	
14	111/12/05 ~ 111/12/11	SQL	
15	111/12/12 ~ 111/12/18	SQL	
16	111/12/19 ~ 111/12/25	SQL	
17	111/12/26 ~ 112/01/01	SQL	
18	112/01/02 ~ 112/01/08	Final exam	
Requirement			
Teaching Facility		Computer, Projector	
Textbooks and Teaching Materials		Handout	
References			
Number of Assignment(s)		(Filled in by assignment instructor only)	
Grading Policy		◆ Attendance : 20.0 % ◆ Mark of Usual : % ◆ Midterm Exam : 40.0 % ◆ Final Exam : 40.0 % ◆ Other < > : %	

Note

This syllabus may be uploaded at the website of Course Syllabus Management System at <http://info.ais.tku.edu.tw/csp> or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at <http://www.acad.tku.edu.tw/CS/main.php>.

※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.