Course Title	SAMPLING THEORY	Instructor	LIN CHIEN-TAI
Course Class	TSMCB4A DEPARTMENT OF MATHEMATICS (SECTION OF DATA SCIENCE AND MATHEMATICAL STATISTICS), 4A	Details	◆ General Course ◆ Selective ◆ 2nd Semester
Relevance to SDGs	SDG4 Quality education		

Departmental Aim of Education

Ⅰ．To teach knowledge in mathematics.

Ⅱ．To train teaching professionals in mathematics.

Ⅲ．To develop independent and creative thinking.

Ⅳ．To establish ability to present oneself.

Ⅴ．To promote cooperative working spirit.

Ⅵ．To prepare self learning ability in multiple areas.

Subject Departmental core competences

C.　To learn basics of probability and statistic.(ratio:50.00)

E.　To obtain the ability to collect and analyze data.(ratio:50.00)

Subject Schoolwide essential virtues

1. A global perspective. (ratio:10.00)

2. Information literacy. (ratio:50.00)

3. A vision for the future. (ratio:10.00)

5. Independent thinking. (ratio:30.00)

Course Introduction	We begin with brief discussions focused on the important role that sample surveys play in the modern world. Then, we start with the problem, describe the methodology needed for solving the problem, and provide the details of the estimation procedure using a compact presentation of the necessary formulas. Finally, we will work out the practical example in full detail.	

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	Students will be able to acquire the ability of the statistical concepts in sampling methods and techniques to solve the practical related problems.	Cognitive

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

No.	Core Competences	Essential Virtues	Teaching Methods	Assessment
1	CE	1235	Lecture, Discussion, Problems solving using R language	Study Assignments, Discussion(including classroom and online), Report(including oral and written)

Course Schedule

Week	Date	Course Contents	Note
1	110/02/22 ~ 110/02/28	Ratio, Regression, and Difference Estimation (Ch. 6)	
2	110/03/01 ~ 110/03/07	Ratio, Regression, and Difference Estimation (Ch. 6)	
3	110/03/08 ~ 110/03/14	Ratio, Regression, and Difference Estimation (Ch. 6)	
4	110/03/15 ~ 110/03/21	Systematic Sampling (Ch. 7)	

5	110/03/22～110/03/28	Systematic Sampling (Ch. 7)	
6	110/03/29～110/04/04	Spring break	
7	110/04/05～110/04/11	Cluster Sampling (Ch.8)	
8	110/04/12～110/04/18	Cluster Sampling (Ch.8)	
9	110/04/19～110/04/25	Cluster Sampling (Ch.8)	
10	110/04/26～110/05/02	Midterm Exam Week	
11	110/05/03～110/05/09	Real Data Analysis	
12	110/05/10～110/05/16	Real Data Analysis	
13	110/05/17～110/05/23	Real Data Analysis	
14	110/05/24～110/05/30	Real Data Analysis	
15	110/05/31～110/06/06	Graduate Exam Week	
16	110/06/07～110/06/13	---	
17	110/06/14～110/06/20	---	
18	110/06/21～110/06/27	---	

Requirement	1. Students will be required to present in class on the topics they are assigned to study. 2. Evaluation and grading criteria for the course: regular attendance; steady participation in class discussions; active in group-assignment participation.
Teaching Facility	Computer, Projector
Textbooks and Teaching Materials	Survey Sampling, 7th edition, Richard L, Scheaffer, William Mendenhall, Ⅲ, R. Lyman Ott, Kenneth G. Gerow, Brooks/Cole
References	
Number of Assignment(s)	(Filled in by assignment instructor only)
Grading Policy	◆ Attendance： 50.0 % ◆ Mark of Usual： % ◆ Midterm Exam： % ◆ Final Exam： % ◆ Other〈Reports/Presentation〉：50.0 %

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 .
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