Course Syllabus (Academic Year 2020)

School of Interdisciplinary Studies, Kanchanaburi Campus, Mahidol University

1. **Course No. and Title** : KAID370 Experimental Designs
   Credit (study hours) : 3(3-0-6)
2. **Program Name** : Bachelor of Science (Food Technology)
3. **Course Module** : Major Required Courses
   Pre/co-requisite : KAID270(KAID209) Introduction to Statistics
4. **Class Semester** : ☐ 1st Semester ☑ 2nd Semester Academic Year 2020
5. **Class Schedule & Venue** : T 09:00 – 12.00 at MUKA, FaceBook Group(ExperStatFT63) and WebEx
6. **Class Coordinator** : Dr. Nuengruithai Tharawatcharasart
   Email : Nuengruithai.tha@gmail.com

7. **Course Description**

Review of basic statistics; basic principle of experimental designs; Completely randomized design; multiple comparison; orthogonal comparison; randomized complete blocked design; latin square design; factorial experiment ; application designing statistical experimental designs; SPSS program.

8. **Course Objectives / Course Learning Outcomes (CLOs)**

No.	Objectives / CLOs	Expected Skills / Knowledge			PLOs
		Specific	Generic	Knowledge	
8.1	To provide students with a better understanding of statistics and statistical experiment designs.				
8.2	To introduce students to the use of scientific data and the design of statistical experiments.				

8.3	To provide students with problem-solving skills by designing statistical experiments.				
8.4	To equip students with skills in application designing statistical experimental designs.				

9. Class Instructor List

9.1 Name : Dr. Nuengruithai Tharawatcharasart (NT) Email : Nuengruithai.tha@gmail.com

9.2 Facebook Group ExperStatFT63, WebEx

Review of basic statistics; basic principle of experimental designs; Completely randomized design; multiple comparison; orthogonal comparison; randomized complete blocked design; latin square design; factorial experiment ; application designing statistical experimental designs; SPSS program.

10. Course Outline

Week	Date	Contents	CLOs	Instructor's Names
1	19 Jan	Review of basic statistics		
2	26 Jan	Basic principle of experimental design	1	NT
3	2 Feb	Completely randomized design	1	NT
4	9 Feb	Multiple comparison	1	NT
5	16 Feb	Orthogonal comparison	1	NT
6	23 Feb	Randomized complete blocked design	1	NT
7	2 Mar	Latin square design	1	NT
8	9 Mar	SPSS Program		
9	16 Mar	Mid-term Examination		
10	23 Mar	factorial experiments1	1	NT
11	30 Mar	factorial experiments2	1	NT
12	20 Apr	factorial experiments3	1	NT
13	27 Apr	SPSS Program	1	NT
14	11 May	Final Examination		

11. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Writing examination (Open book)	8.1, 8.2	9	40
11.2	Final exam	Writing examination (Open book)	8.1, 8.2, 8.3	14	30
11.3	SPSS exam	Writing examination (Open book)	8.1, 8.2, 8.3	8, 13	10
11.4	Quiz / Assignments / Personal homework	Complete and On time	8.1, 8.2, 8.3	1-13	20
				Total	**100**

12. Grading System

☑ Criterion-referenced evaluation

Grade	Score	Grade	Score	Grade	Score	Grade	Score
A	≥ 80 %	B	70 – 74.99%	C	60 – 64.99%	D	50 – 54.99%
B+	75 – 79.99%	C+	65 – 69.99%	D+	55 – 59.99%	F	< 50 %

☑ Norm-referenced evaluation

*If use both criterion and norm-referenced evaluation, please tick two boxes.

13. References

13.1 Weiss NA. 1995. Introductory statistics. 4th ed. Addison-Wesley.

13.2 Johnson RA. 1992. Statistics: principles and methods. 3rd ed. John Wiley & Sons.

13.3 ผศ.สายชล สินสมบูรณ์ทอง. 2549. สถิติกับการวางแผนการทดลองทางการเกษตร. พิมพ์ครั้งที่4. จามจุรี โปรดักท์.