Course Syllabus (Academic Year 2023)

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) (37 คน)

3. **Course Module** : General Education Course

   Pre/co-requisite : -

4. **Class Semester** : ☐ 1st Semester ☑ 2nd Semester Academic Year 2022

5. **Class Schedule & Venue** : M 13:00 – 16:00, Room L-316, Laboratory Building, WebEx

   MUKAe-learning KAID370FT_66, GoogleClassroomKAID370FT_66

6. **Class Coordinator** : Dr. Nuengruithai Tharawatcharasart

   Contact No. : ..... Email : Nuengruithai.tha@mahidol.edu

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 provide students with problem-solving skills by designing statistical experiments.				
8.3	To provide students able to use statistical software packages				

9. Class Instructor List

9.1 Name : Name : Dr. Nuengruithai Tharawatcharasart (NT) Contact No. : .....

Email : Nuengruithai.tha@mahidol.edu

10. Course Outline

Week	Date	Contents	CLOs	Teaching & Learning	Instructor's Names
1	15 Jan 24 (เช้า)	Review of basic statistics SPSS	1	Lecture/Discussion	NT
2	15 Jan 24 (บ่าย)	Basic principle of experimental design and Completely randomized design	1	Lecture/Discussion	NT
3	29 Jan 24 (เช้า)	Multiple comparison	1	Lecture/Discussion	NT
4	29 Jan 24 (บ่าย)	Orthogonal comparison	1	Lecture/Discussion	NT
5	12 Feb 24 (เช้า)	Randomized complete blocked design	1	Lecture/Discussion	NT
6	12 Feb 24 (บ่าย)	SPSS Program	3	Exercise	NT
7	AddOnline	Latin square design	1	Lecture/Discussion	NT
8					
9	4 – 8 Mar 2024 Mid-term Examination				
10	11 Mar 24 (เช้า)	factorial experiments1	1	Lecture/Discussion	NT
11	11 Mar 24 (บ่าย)	factorial experiments2	1	Lecture/Discussion	NT
12	25 Mar 24 (เช้า)	factorial experiments3	1	Lecture/Discussion	NT
13	25 Mar 24 (บ่าย)	SPSS Program	3	Exercise	NT
14	22 Apr 24 (เช้า)	Application and Presentation 1	2	Reflection	NT
15	22 Apr 24 (บ่าย)	Application and Presentation 2	2	Reflection	NT
16					
17	29 Arp – 10 May 2024 Final Examination				

11. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Writing examination	8.1, 8.2	9	30
11.2	Final exam	Writing examination	8.1, 8.2, 8.3	17	30
11.3	Reports / Assignments	Complete and On time	8.1, 8.2, 8.3	2-16	10
11.4	Application and Presentation	Rubric score	8.1, 8.2, 8.3	14-15	20
11.5	Class participation	Observation	8.1, 8.2, 8.3	1-16	10
				Total	**100**

12. Grading System

☑ **O, S, U**

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

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

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