Course Syllabus (Academic Year 2021)

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 (Agricultural Science)

3. **Course Module** : Major Required Courses

   Pre/co-requisite : KAID270(KAID209) Introduction to Statistics

4. **Class Semester** : ☑ 1st Semester　　☐ 2nd Semester　　Academic Year 2019

5. **Class Schedule & Venue** : M 09:00 – 12.00 Facebook ClosedGroup ExperStat64, WebEx

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

   　　　　　　　　　　　　Email : Nuengruithai.tha@mahidol.edu

7. **Course Description**

   Basic principle of experimental design; completely randomized design; treatment combination; orthogonal; randomnized blocked desing; Latin square design; factorial experiments; application of statistics; 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 knowledge and understanding of statistics and application of statistics.				
8.2	To instruct students of the statistic and the application of scientific data, concepts, and statistic models.				
8.3	To provide students with problem solving skills by an approach that describes statistics.				
8.4	To provide students with basic skills of statistics that can be applied.				

9. Class Instructor List

9.1 Name : Dr. Nuengruithai Tharawatcharasart (NT)   Email : Nuengruithai.tha@mahidol.edu

10. Facebook ClosedGroup ExperStat64, WebEx

11. Course Outline

Week	Date	Contents	CLOs	Instructor's Names
1	9 Aug	Basic principle of experimental design	1	NT
2	16 Aug	Completely randomized design	1	NT
3	23 Aug	Treatment combination	1	NT
4	30 Aug	Application 1	1	NT
5	6 Sep	Orthogonal	1	NT
6	13 Sep	Randomized blocked design	1	NT
7	20 Sep	Application 2	1	NT
8	27 Sep	SPSS program1	1	NT
9	4 Oct Midterm Examination			
10	11 Oct	Latin square design	1	NT
11	18 Oct	factorial experiments1	1	NT
12	25 Oct	factorial experiments2	1	NT
13	1 Nov	factorial experiments3	1	NT
14	8 Nov	Application 3	1	NT
15	15 Nov	SPSS program2	1	NT
16	22 Nov Final Examination			

12. Course Assessment

No.	Methods / Activities	Regulations	CLOs	Week	Weight Distribution (%)
11.1	Mid-term exam	Writing examination (Open book)	8.1, 8.2	8	35
11.2	Final exam	Writing examination (Open book)	8.1, 8.2, 8.3	13	35
11.3	Quiz / Assignments / Personal homework	Complete and On time	8.1, 8.2, 8.3	2-16	30
				Total	100

13. 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.

14. References

13.1 อนันต์ชัย เขื่อนธรรม. 2539. หลักการวางแผนการทดลอง. ภาควิชาสถิติ คณะวิทยาศาสตร์
มหาวิทยาลัยเกษตรศาสตร์. กรุงเทพฯ.

13.2 นิดา ชาญบรรยง. หลักการวางแผนการทดลอง. https://kukr2.lib.ku.ac.th>dowload_digital_file.

13.3 Box, G.E.P, W.G. Hunter and J.S. Hunter. 1978. Statistics for Experimenters: John Wiley &
Sons, Inc., New York.

13.4 Hogg RV. Probability and statistical inference. 5th ed. Prentice-Hall; 1997.