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Master in Mathematics

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MODULE HANDBOOK

Module Name	*Experimental Design*
Module level, if applicable	*Master*
Code, if applicable	MMM 5409
Subtitle, if applicable	-
Courses, if applicable	*Experimental Design*
Semester(s) in which the module is taught	*3rd*
Person responsible for the module	Chair of Statistics Laboratory
Lecturer(s)	-
Language	*Bahasa Indonesia*
Relation to curriculum	*elective*
Teaching methods	*Lecture, laboratory work*
Workload (incl. contact hours, self-study hours)	3x50 menutes lecture, 6 hours individual study, 6 weeks per semester, include mid-term and final exam Total workload 136 hours a semester.
Credit points	*3*
Required and recommended prerequisites for joining the module	-

Module objectives/intended learning outcomes	After completing this course the students have ability to : CO 1. explain procedures of some experimental design types CO 2. determine a suitable design for an experiment CO 3. Apply an experimental design for real cases CO 4. analyze the experimental data properly
Content	Incomplete block designs, Balanced incomplete block designs, Factorial designs at 2 levels, Fractional factorial designs, Two level fractional factorial designs, Robust design, Optimal design.
Examination forms	Mid-term exam, Final exam
Study and examination requirements	To pass the course, students are expected to get a minimum grade of D. The final mark will be weighted as follows: i. Class activity (Quiz, HW, presentation, computing session, etc) 25% ii. Mid semester exam 30% iii. Final exam 35%
Media employed	Slides and LCD projectors, laptop, whiteboards
Reading list	1. Heinkelmann, K., Kempthorne, O., 2005, Design and Analysis of Experiments, Vol 2 (Advanced Experimental Design), John Wiley & Sons, New Jersey. 2. Box, G.E.P., Hunter, J.S., Hunter, W.G., 2005, Statistics for Experiments Design: Innovation & Discovery, Second edition, John Wiley & Sons, New Jersey. 3. Buyske, S., 2011, Lecture Note: Advanced Design of Experiment.

CO-PLO Mapping

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6
CO 1		√				
CO 2			√			
CO 3				√		
CO 4					√	

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