



UNIVERSITAS NEGERI YOGYAKARTA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
DEPARTMENT OF MATHEMATICS EDUCATION

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Bachelor of Science in Mathematics

MODULE HANDBOOK

Module name:	Design of Experiment
Module level,if applicable:	Undergraduate
Code:	MAT6366
Sub-heading,if applicable:	-
Classes,if applicable:	-
Semester:	7 th
Module coordinator:	Kismiantini, S.Si., M.Si., Ph.D.
Lecturer(s):	Kismiantini, S.Si., M.Si., Ph.D.
Language:	Bahasa Indonesia
Classification within the curriculum:	Elective Course
Teaching format / class hoursperweekduring the semester:	150 minutes lectures and 180 minutes structured activities per week.
Workload:	Total workload is 136 hours per semester which consists of 150 minutes lectures, 180 minutes structured activities, and 180 minutes self-study per week for 16 weeks.
Creditpoints:	3
Prerequisites course(s):	Advanced Statistics (MAT6309)
Course outcomes:	After taking this course the students have ability to: CO1. Demonstrate collaborative attitude and independence in carrying out individual tasks and group assignments CO2. Communicate original ideas in solving mathematical problem both writing and orally as a way of self-improvement for working and studying.

	<p>CO3. Explain various types of experimental design.</p> <p>CO4. Use experimental design that matched with the problem of interest.</p> <p>CO5. Analyze experimental data based on the chosen experimental design.</p>																										
Content:	<p>This course discusses about the basic principles of experimental design. Randomized design for one factor, randomized block design, latin square design, graeco-latin-square design.</p> <p>Balanced incompleted block design, factorial design with two factor, factorial design with more than two factor, blocking in factorial design with two factor, split plot design, strip plot design, response-surface methodology.</p>																										
Study/exam achievements:	<p>CO1: Attitude assessment is carried out at each meeting by observation and / or self-assessment techniques using the assumption that basically every student has a good attitude. The student is given a value of very good or not good attitude if they show it significantly compared to other students in general. The result of attitude assessment is not a component of the final grades, but as one of the requirements to pass the course. Students will pass from this course if at least have a good attitude.</p> <p>The final mark will be weight as follow:</p> <table border="1"> <thead> <tr> <th>No</th> <th>CO</th> <th>Assessment Object</th> <th>Assessment Technique</th> <th>Weight</th> </tr> </thead> <tbody> <tr> <td rowspan="5">1</td> <td>CO1</td> <td>a. Group Assignment</td> <td rowspan="5">Written test</td> <td>20%</td> </tr> <tr> <td>CO2</td> <td>b. Quiz</td> <td>15%</td> </tr> <tr> <td>CO3</td> <td>c. Project</td> <td>20%</td> </tr> <tr> <td>CO4</td> <td>d. Mid</td> <td>20%</td> </tr> <tr> <td>CO5</td> <td>e. Final exam</td> <td>25%</td> </tr> <tr> <td colspan="3">Total</td> <td>100%</td> </tr> </tbody> </table>	No	CO	Assessment Object	Assessment Technique	Weight	1	CO1	a. Group Assignment	Written test	20%	CO2	b. Quiz	15%	CO3	c. Project	20%	CO4	d. Mid	20%	CO5	e. Final exam	25%	Total			100%
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Forms of media:	Board, LCD Projector, Laptop/Computer																										
Literature:	<p>1. Montgomery, D.C. 2013. Design and analysis of experiments, 8th edition. Hoboken, NJ: John Wiley & Sons, Inc.</p> <p>2. Lawson, J. 2015. Design and analysis of experiments with</p>																										

