Module designation	*Design of Experiment*
Semester(s) in which the module is taught	*5*
Person responsible for the module	*Kismiantini, S.Si., M.Si., Ph.D.*
Language	*Bahasa Indonesia*
Relation to curriculum	*Elective course*
Teaching methods	*150 minutes lectures and 180 minutes structured activities per week.*
Workload (incl. contact hours, self-study hours)	*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.*
Credit points	*3*
Required and recommended prerequisites for joining the module	*MAT6310 - Data Analysis and Visualization*
Module objectives/intended learning 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 selfimprovement for working and studying.* *CO3. Explain various types of experimental design.* *CO4. Use experimental design that matched with the problem of interest.* *CO5. Analyze experimental data based on the chosen experimental design*
Content	*This course discusses about the basic principles of experimental design. Randomized design for one factor, randomized block design, latin square design, graeco-latinsquare design. 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.*
Examination forms	*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.*

<table>
<tr>
<td>Study and examination requirements</td>
<td>
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.

The final mark will be weight as follow:
<table>
<tr><th>No</th><th>CO</th><th>Assessment Object</th><th>Assessment Technique</th><th>Weight</th></tr>
<tr><td>1</td><td>CO1 CO2 CO3 CO4 CO5</td><td>a. Group Assignment
b. Quiz
c. Project
d. Mid
e. Final exam</td><td>Written test</td><td>20%

15%
20%
20%
25%</td></tr>
<tr><td colspan="4">Total</td><td>100%</td></tr>
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<tr>
<td>Reading list</td>
<td>

1. Montgomery, D.C. 2013. Design and analysis of experiments, 8th edition. Hoboken, NJ: John Wiley & Sons, Inc.
2. Lawson, J. 2015. Design and analysis of experiments with R. Boca Raton, FL: CRC Press.
3. Dean, A., Voss, D., Draguljić, D. 2017. Design and analysis of experiments, 2nd edition. New York: Springer International Publishing.

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