MODULE HANDBOOK

<table>
<tr><td colspan="2">Module name</td><td colspan="4">Response Surface Technique</td></tr>
<tr><td colspan="2">Module level, if applicable</td><td colspan="4">4th year</td></tr>
<tr><td colspan="2">Code, if applicable</td><td colspan="4">SST-705</td></tr>
<tr><td colspan="2">Semester(s) in which the module is taught</td><td colspan="4">7th (seventh)</td></tr>
<tr><td colspan="2">Person responsible for the module</td><td colspan="4">Muhammad Muhajir, S.Si., M.Sc.</td></tr>
<tr><td colspan="2">Lecturer</td><td colspan="4">Dr. Edy Widodo, S.Si., M.Si.</td></tr>
<tr><td colspan="2">Language</td><td colspan="4">Bahasa Indonesia</td></tr>
<tr><td colspan="2">Relation to curriculum</td><td colspan="4">Elective course in the fourth year (7th semester) Bachelor Degree</td></tr>
<tr><td>Types of teaching and learning</td><td>Class size</td><td>Attendance time (hours per week per semester)</td><td>Form of active participation</td><td colspan="2">Workload (hours per semester)</td></tr>
<tr><td rowspan="4">Lecture</td><td rowspan="4">50-60</td><td rowspan="4">1.67</td><td rowspan="4">Problem solving</td><td>Face to face teaching</td><td>23.33</td></tr>
<tr><td>Structured activities</td><td>32</td></tr>
<tr><td>Independent study</td><td>32</td></tr>
<tr><td>Exam</td><td>3.33</td></tr>
<tr><td colspan="2">Total Workload</td><td colspan="4">90.67 hours</td></tr>
<tr><td colspan="2">Credit points</td><td colspan="4">2 CUs / 3.4 ECTS</td></tr>
<tr><td colspan="2">Credit points</td><td colspan="4">2</td></tr>
<tr><td colspan="2">Requirements according to the examination regulations</td><td colspan="4">Minimum attendance at lectures is 75%. Final score is evaluated based on quiz, assignment, mid-term exam, and final exam.</td></tr>
<tr><td colspan="2">Recommended prerequisites</td><td colspan="4">Students have taken Applied Regression Analysis (SST-305)).</td></tr>
<tr><td colspan="2">Related course</td><td colspan="4">Final Project (SST-701)</td></tr>
<tr><td colspan="2">Module objectives/intended learning outcomes</td><td colspan="4">After completing this course, the students have ability to:
CO 1. do experimental design for response surface methodology
CO 2. process experimental data using one of the statistical software and be able to analyze them
CO 3. document the experimental design being carried out</td></tr>
<tr><td colspan="2">Content</td><td colspan="4">1. An overview of empirical process optimization
2. Optimization of first order models
3. Experimental designs for first order models
4. Analysis and optimization of second order models
5. Experimental designs for second order models
6. Statistical inference in first order RSM optimization
7. Statistical inference in second order RSM optimization</td></tr>
<tr><td colspan="2">Study and examination requirements and forms of examination</td><td colspan="4">The final mark will be weighted as follows:
No | Assessment components | Assessment types | Weight (percentage)
1 | CO 1 | Quiz & Assidment | 30%
2 | CO 2 | Midterm & Final Exam | 50%
3 | CO 3 | Assignment | 20%</td></tr>
<tr><td colspan="2">Media employed</td><td colspan="4">Google Classroom, relevant websites, slides (power points), video, interactive media, white-board, laptop, LCD projector</td></tr>
<tr><td colspan="2">Reading list</td><td colspan="4">1. Myers, R. H., Montgomery, D. C. and Anderson-Cook, C. M., 2016, Response surface methodology: process and product optimization using designed experiments, Fourth Edition, (Wiley series in probability and statistics), Published by John Wiley & Sons, Inc., Hoboken, New Jersey</td></tr>
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	2. Box, G. E. P. and Draper, N. R., 2007, Response surfaces, mixtures, and ridge analyses --2nd ed., Published by John Wiley & Sons, Inc., Hoboken, New Jersey 3. I. Khuri, A., 2006., Response surface methodology and related topics, World Scientific Publishing Co. Pte. Ltd.5 Toh Tuck Link, Singapore 596224 4. Enrique del Castillo, 2007, Process Optimization A Statistical Approach, Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA 5. Myers, R. H., 1971, Response Surface Methodology, Allyn and Bacon, New York 6. Box, G. E. P., Hunter, W. G., and Hunter, J. S., 1978, Statistics for experimenter: An Introduction to Design Data Analysis, and Model Building, John Wiley & Sons, New York

Mapping CO, PLO, and ASIIN's SSC

ASIIN		PLO											
		E	N	T	H	U	S	I	A	S	T	I	C
Knowledge	a												
	b												
	c												
	d												
Ability	e										CO1		
	f												
Competency	g												
	h												
	i										CO2		
	j												
	k												
	l										CO3		