MODULE HANDBOOK

<table>
<tr><td colspan="2">Module name</td><td colspan="4">Operations Research</td></tr>
<tr><td colspan="2">Module level, if applicable</td><td colspan="4">2nd year</td></tr>
<tr><td colspan="2">Code, if applicable</td><td colspan="4">SST-405</td></tr>
<tr><td colspan="2">Semester(s) in which the module is taught</td><td colspan="4">4th (fourth)</td></tr>
<tr><td colspan="2">Person responsible for the module</td><td colspan="4">Achmad Fauzan, S.Pd., M.Si.</td></tr>
<tr><td colspan="2">Lecturer</td><td colspan="4">Ayundyah Kesumawati, S.Si., M.Si.
Dina Tri Utari, S.Si., M.Sc.</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">Compulsory course in the second year (4th 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">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 Introduction to Mathematical Statistics I (SST-302).</td></tr>
<tr><td colspan="2">Related course</td><td colspan="4">Advanced Operation Research</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. describe the basic concepts of operation research, linear programming, and methods
CO 2. calculate the optimum solution of a linear programming problem using the right methods
CO 3. decide conclusions from real case studies of linear programming problems
CO 4. do simple scientific assignments and are able to present the results well in the case of linear programming problems</td></tr>
<tr><td colspan="2">Content</td><td colspan="4">The basic concept of operation research: introduction to operation research, introduction to linear programming and graph method, feasible basic solution and simplex table, big M and two phase method, duality and dual simplex, sensitivity analysis, transportation model, assignment model.</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 | Assignment, Midterm Exam | 15%
2 | CO 2 | Assignment, Midterm Exam | 25%
3 | CO 3 | Assignment, Final Exam | 30%
4 | CO 4 | Final Exam (Project) | 30%</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. Hamdy A. Taha. Operation Research:An Introduction, MacMillan, 2004.
2. Hillier, Frederich S. and Lieberman. Introduction to Operation Research, McGraw-Hill, 1990.</td></tr>
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Mapping CO, PLO, and ASIIN's SSC

ASIIN		PLO											
		E	N	T	H	U	S	I	A	S	T	I	C
Knowledge	a												
	b						CO1						
	c												
	d												
Ability	e						CO3						
	f												
Competency	g												
	h						CO2						
	i												
	j												
	k												
	l						CO4						