MODULE HANDBOOK

Module Name:	Fuzzy Theory
Module Level:	Sarjana (S-1) / Bachelor
Abbreviation, if applicable:	8420203223
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	7/ Fourth year
Module Coordinator(s):	Prof. Dr. Dwi Juniati, M.Si
Lecturer(s):	Prof. Dr. Dwi Juniati, M.Si Muhammad Jakfar, S.Si., M.Si.
Language:	Indonesia
Classification within the curriculum:	~~Compulsory course~~/ elective studies
Teaching format/class hours per week during the semester	Teaching format: lectures, tutorial assignment, and individual study. 3 x 170 minutes = 510 minutes = 8.5 hours lectures
Workload:	15 weeks per semester consisting of: ➢ 2.5 hours lectures (3 x 50 minutes) per week, ➢ 3 hours tutorial assignments (3 x 60 minutes) per week, ➢ 3 hours individual study (3 x 60 minutes) per week, Total workload : 14x3x170 minutes = 7,140 minutes = 4.76 ECTS*
Credit Point:	3
Requirements:	Elementary linear algebra
Learning Goals:	**Knowledge (KNO-1)** CLO-1: Demonstrate mathematical knowledge and insight related to fuzzy sets, the concept of operations on fuzzy sets, fuzzy logic and fuzzy relations and their properties. **Skill (SKI-2)** CLO-2: use basic mathematical principles (regarding fuzzy sets, the concept of operations on fuzzy sets, fuzzy logic and fuzzy relations and their properties) in solving problems, especially in the applications.
Content:	Fuzzy sets, the concept of operations on fuzzy sets, fuzzy logic and fuzzy relations and their properties.

<table>
<tr><td>Study/exam achievements</td><td>

Students are considered competent and pass if the final score calculated from the score of midterm exam, assignments, participation, and final exam is at least 55 or C.
Final score is calculated as follows:
20% midterm exam + 30% assignments + 20% participation + 30% final exam
Final index is defined as follow:

<table>
<tr><th>Index</th><th>Converted Score</th><th>Score Range</th></tr>
<tr><td>A</td><td>4.00</td><td>$85 \leq A \leq 100$</td></tr>
<tr><td>A-</td><td>3.75</td><td>$80 \leq A- < 85$</td></tr>
<tr><td>B+</td><td>3.50</td><td>$75 \leq B+ < 80$</td></tr>
<tr><td>B</td><td>3.00</td><td>$70 \leq B < 75$</td></tr>
<tr><td>B-</td><td>2.75</td><td>$65 \leq B- < 70$</td></tr>
<tr><td>C+</td><td>2.50</td><td>$60 \leq C+ < 65$</td></tr>
<tr><td>C</td><td>2.00</td><td>$55 \leq C < 60$</td></tr>
<tr><td>D</td><td>1.00</td><td>$40 \leq D < 55$</td></tr>
<tr><td>E</td><td>0.00</td><td>$0 \leq E < 40$</td></tr>
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</td></tr>
<tr><td>Forms of Media</td><td>Slides and LCD projectors, whiteboard</td></tr>
<tr><td>Literature</td><td>
[1] Zimmermann, 1996, Fuzzy Set Theory and Its Applications. Berlin. Kluwer Academic Publisher,.

[2] Klir, G.J. & Yuan, B. 2001. Fuzzy Sets and Fuzzy Logic: Theory and Applications. New York. Prentice-Hall.

[3] Ross, J.Timothy , 2004, Fuzzy Logic with Engineering Aplications. New York. John Wiley and Sons.
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<tr><td>Note</td><td>*Total hours per 1 credit in 1 semester={(1 credit x 170 minutes x 14 weeks)/60 minutes}=39,67 hours.
Each ECTS equals with 25 hours therefore 1 credit in 1 semester equals 1,59 ECTS.</td></tr>
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