MODULE HANDBOOK

Module Name:	Discrete Mathematics
Module Level:	Sarjana (S-1) / Bachelor
Abbreviation, if applicable:	8420203107
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	4/ Second year
Module Coordinator(s):	Dr. Pradnyo Wijayanti, M.Pd
Lecturer(s):	Prof. I Ketut Budayasa, Ph.D. Dr. Pradnyo Wijayanti, M.Pd. Dr. Budi Rahadjeng, 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:	Foundations of Mathematics
Learning Goals:	**Knowledge (KNO-1)** CLO-1: Demonstrate mathematical knowledge and insight related to enumeration rules, permutations, combinations, generating functions, recursive relations, the principle of inclusion and exclusion. **Skill (SKI-2)** CLO-2: Implement basic mathematical principles related to enumeration rules, permutations, combinations, generating functions, recursive relations, and inclusion and exclusion principles to solve simple mathematical problems.

<table>
<tr><td>Content:</td><td>Multiplication Rules, Addition Rules, Permutations, Combinations, Binomial and Multinomial Coefficients, Bird's Nest Principles, Generating Functions, Recursive Relations, and Inclusion-Exclusion Principles.</td></tr>
<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>
</table>
</td></tr>
<tr><td>Forms of Media</td><td>Slides and LCD projectors, whiteboard</td></tr>
<tr><td>Literature</td><td>[1] Budayasa, I. K. 2008. Matematika Diskret. Surabaya: Unesa University Press.
[2] K.H. Rosen. 2011. Discrete Mathematics with Applications, 7th edition.New York: Mc GrawHill.
[3] Mattson, Jr. 1993. Discrete Mathematics with Applications. Singapore: John Wiley&Sons, Inc.</td></tr>
<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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