

MODULE HANDBOOK

Module Name:	Graph Theory
Module Level:	Sarjana (S-1) / Bachelor
Abbreviation, if applicable:	
Sub-heading, if applicable:	-
Course included in the module, if applicable:	-
Semester/term:	7/Fourth year
Module Coordinator(s):	Dr. Budi Rahadjeng, M.Si
Lecturer(s):	Dr. Budi Rahadjeng, M.Si Dr. Pradnyo Wijayanti, M.Pd
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: <ul style="list-style-type: none"> ➤ 3 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:	Discrete Mathetics
Learning Goals:	<p>Knowledge</p> <p>CLO-1: Identify and explain solving simple problems using the concepts and properties of connectedness, tree, planarity, eulerian, hamiltonian, coloring, and some graph optimizations and their applications</p> <p>Skill</p> <p>CLO-2: Use the concepts and properties of connectedness, tree, planarity, eulerian, hamiltonian, coloring, and some graph optimizations and their applications in solving more general mathematical problems.</p>
Content:	Connectedness, Tree, Planarity, Eulerian, Hamiltonian, Coloring, And Some Graph Optimizations And Their Applications

<p>Study/exam achievements</p>	<ul style="list-style-type: none"> ➤ 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 border="1" data-bbox="662 569 1307 1052"> <thead> <tr> <th>Index</th> <th>Converted Score</th> <th>Score Range</th> </tr> </thead> <tbody> <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> </tbody> </table>	Index	Converted Score	Score Range	A	4.00	$85 \leq A \leq 100$	A-	3.75	$80 \leq A- < 85$	B+	3.50	$75 \leq B+ < 80$	B	3.00	$70 \leq B < 75$	B-	2.75	$65 \leq B- < 70$	C+	2.50	$60 \leq C+ < 65$	C	2.00	$55 \leq C < 60$	D	1.00	$40 \leq D < 55$	E	0.00	$0 \leq E < 40$
Index	Converted Score	Score Range																													
A	4.00	$85 \leq A \leq 100$																													
A-	3.75	$80 \leq A- < 85$																													
B+	3.50	$75 \leq B+ < 80$																													
B	3.00	$70 \leq B < 75$																													
B-	2.75	$65 \leq B- < 70$																													
C+	2.50	$60 \leq C+ < 65$																													
C	2.00	$55 \leq C < 60$																													
D	1.00	$40 \leq D < 55$																													
E	0.00	$0 \leq E < 40$																													
<p>Forms of Media</p>	<p>Slides and LCD projectors, whiteboard</p>																														
<p>Literature</p>	<p>[1] Budayasa, K., 2016, Teori Graph dan Aplikasinya, UNESA University Press.</p> <p>[2] Chartrand, G. Dan Zhang, P. 2012. A First Course In Graph Theory. New York: Dover Publications, Inc. Mineola.</p> <p>[3] Chartrand, G., Linda, L., dan Zhang, P. 2011. Graphs & Digraphs. Fifth Edition. New York: Taylor and Francis Group, LLC Chapman & Hall/CRC.</p> <p>[4] Hammack, R., Imrich, W., dan Klavžar, S. 2011. HANDBOOK OF PRODUCT GRAPHS SECOND EDITION. New York: Taylor and Francis Group, LLC Chapman & Hall/CRC.</p> <p>[5] Clark, J. & D. A. Holton, 1991, First Look at Graph Theory, New Jersey World Scientific Publishing Co.</p> <p>[6] Johnsonbaugh, R., 1997, Discrete Mathematics, Prentice Hall.</p>																														
<p>Note</p>	<p>*Total hours per 1 credit in 1 semester={ (1 credit x 170 minutes x 14 weeks)/60 minutes}=39,67 hours.</p> <p>Each ECTS equals with 25 hours therefore 1 credit in 1 semester equals 1,59 ECTS.</p>																														