



MINISTRY OF EDUCATION, CULTURE, RESEARCH, AND TECHNOLOGY

UNIVERSITAS SRIWIJAYA

FACULTY OF TEACHER TRAINING AND EDUCATION

MATHEMATICS EDUCATION STUDY PROGRAM

Jl. Raya Palembang – Prabumulih Km.32, Indralaya Ogan Ilir 30662 Website: Fkip.unsri.ac.id

Doctoral Program in Mathematics Education

MODULE HANDBOOK

Module name/ Code	:	Topic in discrete mathematics/ GMA72010
Module level, if applicable	:	Doctor
Code	:	GMA72010
Subheading, if applicable	:	-
Class, if applicable	:	-
Semester	:	2 nd (second) / even
Module coordinator	:	Dr. Hapizah, S.Pd., M.T.
Lecturer(s)	:	Dr. Hapizah, S.Pd., M.T.
Language	:	Bahasa Indonesia and English
Classification within the curriculum	:	Study Program Elective Course
Teaching format/ class hours per week during the semester	:	Teaching format: lectures, tutorial assignment, and individual study. 2 x 300 minutes = 600 minutes = 10 hours lectures
Workload	:	14 weeks per semester consisting of: <ul style="list-style-type: none"> ➤ 1 hour lecture (1 x 50 minutes) per week, ➤ 2 hours assignments (2 x 50 minutes) per week, ➤ 2 hours individual study (2 x 75 minutes) per week, Total workload: 14x2x300 minutes=8,400 minutes= 5.6 ECTS*
Credit points	:	2 (5.6 ECTS)
Prerequisite's course(s)	:	-
Course outcomes	:	After taking this course, students should be able to: CO-1 : able to describe the concept of discrete mathematics according to a scientific and critical attitude. CO-2 : able to carry out enumeration of combinatorial objects in the language of discrete states and/or discrete time with effective and communicative scientific arguments. CO-3 : able to apply combinatorial and graph approaches to design problem solving from the social and natural sciences.
Content	:	The study of discrete mathematical concepts mainly discusses discrete dynamical systems, algorithms, combinatorics, and graph theory with an emphasis on algorithm complexity, existence and optimization issues in graph theory and its algorithms which support his/her research.



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Study/ exam achievement	<p>: > 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 56 or C.</p> <p>> It is expected that students attend 80% of the total meetings in the modules.</p> <p>> 35% midterm exam + 15% assignments + 10% participation + 40% final exam.</p> <p>> Final index is defined as follow:</p> <p>The total score is converted into a qualitative score,</p> <table border="1" data-bbox="573 812 1187 1087"> <thead> <tr> <th>Total Score</th> <th>Grade</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>86 – 100</td> <td>A</td> <td>Excellent</td> </tr> <tr> <td>71 – 85.99</td> <td>B</td> <td>Good</td> </tr> <tr> <td>56 – 70.99</td> <td>C</td> <td>Fair</td> </tr> <tr> <td>41 – 55.99</td> <td>D</td> <td>Bad</td> </tr> <tr> <td>0 – 40.99</td> <td>E</td> <td>Worse</td> </tr> </tbody> </table>	Total Score	Grade	Description	86 – 100	A	Excellent	71 – 85.99	B	Good	56 – 70.99	C	Fair	41 – 55.99	D	Bad	0 – 40.99	E	Worse
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Forms of media	: Laptop and LCD projectors																		
Literature	: <ol style="list-style-type: none"> 1. Budayasa, K. (2008). Teori graph dan aplikasinya. Surabaya: University Press Unesa 2. Bollobas, B. (2002). Modern graph theory, corrected Ed. Berlin: Springer Verlag 3. Chartrand, G. & Lesniak, L. (1996). Graphs and digraphs. London: Chapman Hall/CRC. 4. Chen, W. K. (2003). Net Theory and its applications-flows in Networks, London: Imperial College Press. 5. Diestel, R. (2010). Graph theory. Springer Verlag. 6. Harary, F. & Palmer, E. M. (1973). Graphical enumeration. New York: Academic Press, Inc. 7. Gross, J. L., & Yellen, J. (2005). Graph theory and its applications. CRC Press. 8. Tucker, A. (2012). Applied combinatorics. New York: John Wiley & Sons, Inc. 9. Wilf, H. S. (1994). Generating functionology. London: Academic Press, Inc. 																		
Note	: *Total hours per 1 credit in 1 semester = {(1 credit x 300 minutes x 14 weeks)/60 minutes} = 70 hours.																		



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	Each ECTS equals 25 hours therefore 1 credit in 1 semester equals 2.8 ECTS.
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PLO and CO Mapping

	PLO1	PLO2	PLO3	PLO4	PLO5	PLO6	PLO7	PLO8	PLO9
CO1					✓				
CO2					✓				
CO3					✓				