

MODULE HANDBOOK
Master Program in Computer Science
Department of Computer Science and Electronics
Faculty of Mathematics and Natural Sciences
Universitas Gadjah Mada

Network Security

Module name	Network Security	
Module level	Master	
Code	MII-6874	
Courses (if applicable)	Network Security	
Semester	1	
Contact person	Dr-tech. Ahmad Azhari, M.Kom.	
Lecturer	Dr-tech. Ahmad Azhari, M.Kom. Anny Kartika Sari, S.Si., M.Sc., Ph.D.	
Language	Bahasa Indonesia	
Relation to curriculum	master program, elective, 2 nd semester.	
Type of teaching, contact hours	Lectures, < 60 students Thursday, 10.00-12.30.	
Workload	1. Lectures: 3 x 50 = 150 minutes (2.5 hours) per week. 2. Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week. 3. Private study: 3 x 60 = 180 minutes (3 hours) per week.	
Credit points	3 credit points (SKS).	
Requirements according to the examination regulations	A student must have attended at least 75% of the lectures to sit in the exams.	
Recommended prerequisites	-	
Learning outcomes and their corresponding PLOs	After completing this module, a student is expected to:	
	CO	Description
	CO-1	Be able to explain and analysis aspects of network security.
		Supported PLO
		PLO-3, PLO-6, PLO-9

	CO-2	Be able to explain and analysis the algorithms and mechanism for computer network security.	PLO-2, PLO-3, PLO-4, PLO- 5, PLO-9																																																
	CO-3	Be able to design and implement network system security including the use of WiFi.	PLO-4, PLO-5, PLO-6																																																
	CO-4	Be able to explain and analysis network system security related to layers in computer network.	PLO-4, PLO-5, PLO-6																																																
	CO-5	Be able to identify several techniques to attack computer network.	PLO-4, PLO-5, PLO-6, PLO- 9																																																
Content	This course provides the students with the knowledge of cryptography and how to use it to build techniques for network security, security protocols, etc.																																																		
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Assignments • Mid-term examinations • Final examinations 																																																		
Media employed	LCD, blackboard, and websites.																																																		
Assessments and Evaluation	<table border="1"> <thead> <tr> <th>CO</th> <th>Assessment Methods</th> <th>Supported PLO</th> <th>Percentage</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td rowspan="3">CO-1</td> <td>Question 1 in midterm exam</td> <td>PLO-3</td> <td>5 %</td> <td rowspan="3">15 %</td> </tr> <tr> <td rowspan="2">Assignment 1</td> <td>PLO-6</td> <td>5 %</td> </tr> <tr> <td>PLO-9</td> <td>5 %</td> </tr> <tr> <td rowspan="5">CO-2</td> <td rowspan="3">Question 2, 3, 4 in midterm exam</td> <td>PLO-2</td> <td>5 %</td> <td rowspan="5">35 %</td> </tr> <tr> <td>PLO-3</td> <td>10 %</td> </tr> <tr> <td>PLO-4</td> <td>10 %</td> </tr> <tr> <td>Assignment 2</td> <td>PLO-6</td> <td>5 %</td> </tr> <tr> <td>Assignment 3</td> <td>PLO-9</td> <td>5 %</td> </tr> <tr> <td rowspan="3">CO-3</td> <td rowspan="2">Question 1 in final exam</td> <td>PLO-4</td> <td>5 %</td> <td rowspan="3">15 %</td> </tr> <tr> <td>PLO-5</td> <td>5 %</td> </tr> <tr> <td>Assignment 4</td> <td>PLO-6</td> <td>5 %</td> </tr> <tr> <td rowspan="2">CO-4</td> <td rowspan="2">Question 2 in final exam</td> <td>PLO-4</td> <td>5 %</td> <td rowspan="2">15 %</td> </tr> <tr> <td>PLO-5</td> <td>5 %</td> </tr> </tbody> </table>				CO	Assessment Methods	Supported PLO	Percentage	Total	CO-1	Question 1 in midterm exam	PLO-3	5 %	15 %	Assignment 1	PLO-6	5 %	PLO-9	5 %	CO-2	Question 2, 3, 4 in midterm exam	PLO-2	5 %	35 %	PLO-3	10 %	PLO-4	10 %	Assignment 2	PLO-6	5 %	Assignment 3	PLO-9	5 %	CO-3	Question 1 in final exam	PLO-4	5 %	15 %	PLO-5	5 %	Assignment 4	PLO-6	5 %	CO-4	Question 2 in final exam	PLO-4	5 %	15 %	PLO-5	5 %
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		Assignment 5	PLO-6	5 %		
	CO-5	Question 3 in final exam	PLO-4	5 %	20 %	
			PLO-5	5 %		
			PLO-6	5 %		
		Assignment 6	PLO-9	5 %		
Reading List	<ul style="list-style-type: none"> • William Stallings, "Cryptography and Network Security", 7th Ed., Prentice Hall, 2011. • Andrew S. Tanenbaum, Computer Network 5th Ed., Prentice Hall, 2011. • Charles P. Pfleeger dan Shari Lawrence Pfleeger, Security in Computing (4th Ed.), Prentice Hall, 2007. 					