

**UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE
DEPARTMENT OF COMPUTER SCIENCE AND ELECTRONICS
FACULTY OF MATHEMATICS AND NATURAL SCIENCES
UNIVERSITAS GADJAH MADA**

Module name	Computer Network	
Module level	Undergraduate	
Code	MII-2602	
Courses (if applicable)	Computer Network	
Semester	Fall	
Contact person	Mardhani Riasetiawan, MT	
Lecturer	Mardhani Riasetiawan, MT	
Language	Bahasa Indonesia and English	
Relation to curriculum	<ol style="list-style-type: none"> 1. Undergraduate degree program; elective; 3th, 5th or 7th semester. 2. International undergraduate program; elective; 3th, 5th or 7th semester. 	
Type of teaching, contact hours	<ol style="list-style-type: none"> 1. Undergraduate degree program: lectures, < 60 students, 2. International undergraduate program: lectures, < 30 students 	
Workload	<ol style="list-style-type: none"> 1. Lectures: 3 x 50 = 150 minutes (2 hours 30 minutes) 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:	
	CO1 Understand the basic concepts required in this course, particularly those relating to network protocols of data communications, architecture, network management and security	PLO3
	CO2 Capable to explains the concept of data communication, asynchronous and synchronous networks	PLO3
	CO3 Capable to explain network management in LAN, WAN and MAN scale	PLO3

	CO4 Capable to explain concepts and types of data traffic in switching, routing, and others	PLO3			
	CO5 Capable to explain optimization concept and network security facilities at NUC100 series microcontroller;	PLO3			
	CO6 Capable to apply the concepts and techniques that have been learned to network management and security.	PLO3			
	CO7 Capable to explain suggested solutions in the real problems of network management and security.	PLO4			
Content	<p>Computer network is one fundamental components of information and communication technology in data communication line provider. Computer networks and data communications converge due to need of multi-purposes data communication line with varied needs characteristics. Understanding of computer networks in basic communication principles, network design approaches, and standards used, the communication model up to its security becomes the focus learning subjects for mastering this field. Computer networks also cover the theoretical, technical, operational and best practices aspects used in the scientific and industrial fields. The rapid development of computer network cause the material must also enter new areas in the telecommunications aspect which became one of up to date the data communication model.</p>				
Study and examination requirements and forms of examination	Mid-terms examination and Final examination.				
Media employed	LCD, whiteboard, websites, books (as references), etc.				
Assessments and Evaluation	CO	Metode Evaluasi	Tipe	Persentase	Total
	CO1	Assignment 1	Formatif	5.00%	10%
		Question 1 at mid-terms exam	Sumatif	5.00%	
	CO2	Assignment 2	Formatif	5.00%	15%
		Question 2 at mid-terms exam	Sumatif	5.00%	
		Question 3 at mid-terms exam	Sumatif	5.00%	

	CO3	Assignment 3	Formatif	10.00%	15%
		Question 4 at mid-terms exam	Sumatif	5.00%	
		Question 5 at mid-terms exam	Sumatif	5.00%	
	CO4	Assignment 4	Formatif	5.00%	10%
		Question 1 at final exam	Sumatif	5.00%	
	CO5	Question 2 at final exam	Sumatif	5.00%	10%
		Question 3 at final exam	Sumatif	5.00%	
	CO6	Question 4 at final exam	Sumatif	5.00%	15%
		Question 5 at final exam	Sumatif	5.00%	
		Assignment 5	Formatif	5.00%	
CO7	Mid-terms project	Formatif	12.50%	12.5%	
	Final project	Formatif	12.50%		
Reading List	<p>Stalling, W., Data and Computer Coommunications. Eighth Edition, Person Prentice Hall. 2007.</p> <p>Stalling, W., Network Security Essentials, Fourth Edition, Person Prentice Hall, 2011.</p> <p>Riasetiawan, M., Future Networks, Cloud Publishing (white books), 2017.</p>				