

**UNDERGRADUATE PROGRAM IN COMPUTER SCIENCE**  
**DEPARTMENT OF COMPUTER ENGINEERING**  
**FACULTY OF INTELLIGENT ELECTRICAL AND INFORMATICS TECHNOLOGY**

Module name	<b>Computer Networks and Laboratory</b>	
Module level	Undergraduate	
Code	EC184501	
Courses (if applicable)	Computer Networks and Laboratory	
Semester	5 / Fall (Gasal)	
Contact person	Arief Kurniawan, S.T, M.T.	
Lecturer	Arief Kurniawan, S.T, M.T.	
Language	Indonesia / English	
Relation to curriculum	Undergraduate degree program, mandatory, 5 <sup>th</sup> semester. {semester}	
Type of teaching, contact hours	Lecture, < 60 students, 230 MINUTES 4 SKS	
Workload	<ol style="list-style-type: none"> <li>1. Lectures: 4 x 50 = 200 minutes (3.3 hours) per week.</li> <li>2. Exercises and Assignments: 4 x 60 = 240 minutes (4 hours) per week.</li> <li>3. Private study: 3 x 60 = 240 minutes (4 hours) per week.</li> </ol>	
Credit points	4 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.	
Mandatory prerequisites		
Learning outcomes and their corresponding PLOs	<p>CLO-1 Students are able to understand the concept of internets and its exemplary, and layering concept of internet design.</p> <p>CLO-2 Students are able to understand the concept of forwarding, packet switching, reliable communication, and congestion control.</p> <p>CLO-3 Students are able to understand the concept of names and addresses.</p> <p>CLO-4 Students are able to understand the technologies used in physical and link layer.</p> <p>CLO-5 Students are able to understand and applied the concept of subnetting.</p> <p>CLO-6 Students are able to understand and applied the concept of interdomain routing.</p> <p>CLO-7 Students are able to understand and operate the internet application (Web and DNS)</p>	<p>PLO-3</p> <p>PLO-3</p> <p>PLO-3</p> <p>PLO-3 PLO-4</p> <p>PLO-6</p> <p>PLO-6 PLO-9</p> <p>PLO-6 PLO-9</p>

Content	In this course, student will learn the communication mechanism in computer networks, concept of internet, components of internet, and application that used internet. The topics covered in this course are : Basic Concept of internet, packet forwarding, packet switching, reliable communication, congestion control, naming, address, physical layer technology, link layer, concept of subnetting, interdomain routing, world wide web, and DNS.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> <li>• In-class exercises</li> <li>• Quiz 1 and 2</li> <li>• Assignment 1, 2, 3</li> <li>• Mid-term examination</li> <li>• Final examination</li> </ul>
Media employed	LCD, whiteboard, websites (myITS Classroom).
Assessments and Evaluation	CO-1: Question no 1 in midterm exam (10%) CO-2: Question no 2 in midterm exam (10%) CO-3: Question no 3 in midterm exam (10%), quiz 1 (5%) CO-4: Assignment 1 (5%), question no 4 in midterm exam (10%), Quiz 2 (5%) CO-5: Question no 1 in final exam (10%), question no 2 in final exam (10%) CO-6: Assignment 2 (5%), question no 3 in final exam (10%) CO-7: Assignment 3 (5%), question no 4 in final exam (5%)
Reading List	<ol style="list-style-type: none"> <li>1. Jim Kurose dan Keith Ross, " Computer Networking: A TopDown Approach, 6th edition", Pearson Education, 2012.</li> <li>2. Andrew S. Tanenbaum dan David J. Wetherall, "Computer Networks (5th Edition) ", Prentice Hall, 2010</li> <li>3. Kevin R. Fall dan W. Richard Stevens, "TCP/IP Illustrated, Volume 1: The Protocols (2nd Edition)", Addison-Wesley Professional, 2011</li> <li>4. Larry L. Peterson dan Bruce S. Davie , "Computer Networks, Fifth Edition: A Systems Approach (The Morgan Kaufmann Series in Networking)", Morgan Kaufmann, 2011</li> </ol>