

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

Module name	Network and System Programming	
Module level	Undergraduate	
Code		
Courses (if applicable)	Network and System Programming	
Semester	<i>Spring</i> (Genap)	
Contact person		
Lecturer	[Dosen pengajar]	
Language	[Indonesia / English]	
Relation to curriculum	Undergraduate degree program, <i>mandatory</i> , 6 th semester.	
Type of teaching, contact hours	Lecture, < 60 students, 170 MENIT * SKS	
Workload	<ol style="list-style-type: none"> 1. <i>Lectures: 3 x 50 = 150 minutes (2.5 hours) per week.</i> 2. <i>Exercises and Assignments: 3 x 60 = 180 minutes (3 hours) per week.</i> 3. <i>Private study: 3 x 60 = 180 minutes (3 hours) per week.</i> 	
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.	
Mandatory prerequisites		
Learning outcomes and their corresponding PLOs	<p>PLO3: Having extensive and good knowledge in the fields of mathematics, natural sciences, and engineering, which enables them to understand certain fields related to computer engineering such as circuits and electronics, digital design, embedded systems, computer architecture and organization, computer networks, signal processing , computer algorithms and information security.</p> <p>PLO4: Having knowledge of the latest and most recent technological developments in the field of computer systems and networks that include hardware and software applied to embedded systems, digital signal processing, communication systems, multimedia computing and information security and knowledge of the latest principles and issues related to economic factors, occupational health and safety, social and ecology in general.</p> <p>PLO5: Able to choose and apply modeling, calculation and testing methods through experiments and computer simulations, able to explain the results in the fields of cloud computing, wireless sensor networks, internet of things (IoT), wearable devices, embedded systems and robotics.</p>	

	PLO6: Able to develop hardware and/or software (integrated) design implemented in embedded systems, signal processing, communication systems, multimedia computing, and information security; and able to evaluate aspects of maintainability, sustainability, and manufacturability.	
Content	<i>In this course, students will learn programming at the system level. Students will be introduced to the programming system and its environment. Topics include file systems, processes, threads, POSIX, IPC, pipes, and sockets.</i>	
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • <i>In-class exercises</i> • <i>Quiz 1 and 2</i> • <i>Assignment 1, 2, 3</i> • <i>Mid-term examination</i> • <i>Final examination</i> 	
Media employed	<i>LCD, whiteboard, websites (myITS Classroom).</i>	
Assessments and Evaluation	<p><i>CO-1: Question no 1 in midterm exam (10%)</i> <i>CO-2: Question no 2 in midterm exam (10%)</i> <i>CO-3: Question no 3 in midterm exam (10%), quiz 1 (5%)</i> <i>CO-4: Assignment 1 (5%), question no 4 in midterm exam (10%), Quiz 2 (5%)</i> <i>CO-5: Question no 1 in final exam (10%), question no 2 in final exam (10%)</i> <i>CO-6: Assignment 2 (5%), question no 3 in final exam (10%)</i> <i>CO-7: Assignment 3 (5%), question no 4 in final exam (5%)</i></p>	
Reading List	<ol style="list-style-type: none"> 1. Adam Hoover, "System Programming with C and Unix", Addison-Wesley, 2010 2. Bruce Molay. Understanding UNIX/LINUX Programming: A Guide to Theory and Practice, Prentice-Hall, Inc., Upper Saddle River, NJ, USA, 2002 	