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

Module name	**Electrical Technology Competency**
Module level	Undergraduate
Code	
Courses (if applicable)	Electrical Technology Competency
Semester	*Spring* (Genap)
Contact person	
Lecturer	[Dosen pengajar]
Language	[Indonesia / English]
Relation to curriculum	Undergraduate degree program, *mandatory, 8th* semester.
Type of teaching, contact hours	Lecture, < 60 students, 170 MENIT * SKS
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.
Mandatory prerequisites	
Learning outcomes and their corresponding PLOs	PLO2: Demonstrate an attitude of responsibility independently and jointly contribute to law enforcement, ethics, norms for community life and environmental sustainability. 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. 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. PLO9: Able to demonstrate awareness of project management and business practices through effective communication strategies, interdisciplinary teamwork, professional and ethical responsibilities, and being able to engage in lifelong independent learning.

Content	*In this course, students will study, simulate and implement techniques based on Electrical Measurement, Electrical Circuits, Telecommunica tions System Basics and Electronic Circuits in laboratory activities based on related subjects.*
Study and examination requirements and forms of examination	• *In-class exercises* • *Quiz 1 and 2* • *Assignment 1, 2, 3* • *Mid-term examination* • *Final examination*
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	1. Steve Heath, “Embedded System Design”, The MIT Press Cambridge, Massachusetts London, England, 2001 2. Marilyn Wolf, “Computers as Components, Fourth Edition: Principles of Embedded Computing System Design (The Morgan Kaufmann Series in Computer Architecture and Design)”, Todd Green, 2012 3. Ronald Sass, “Embedded Systems Design with Platform FPGAs: Principles and Practices”, Elsevier, 2010