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

Module name	**Electric Circuits**
Module level	Undergraduate
Code	
Courses (if applicable)	Electric Circuits
Semester	*2 / Spring* (Genap)
Contact person	*Anny Kartika Sari, M.Sc., Ph.D.* {Dosen penyusun}
Lecturer	[Dosen pengajar]
Language	[Indonesia / English]
Relation to curriculum	Undergraduate degree program, *mandatory, 2nd* semester. {semester}
Type of teaching, contact hours	Lecture, < 60 students, 90 MINUTES 2 SKS
Workload	1. *Lectures: 2 x 50 = 100 minutes (1.7 hours) per week.* 2. *Exercises and Assignments: 2 x 60 = 120 minutes (2 hours) per week.* 3. *Private study: 2 x 60 = 120 minutes (2 hours) per week.*
Credit points	*2* 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	PLO-3 Knowledge in mathematics, natural sciences and engineering PLO-5 Graduates are able to select and apply methods of modelling, calculating, and testing through experiments and computer simulations, and to explain the results PLO-6 Able to develop (integrated) hardware and/or software design and to evaluate its maintainability, sustainability, and manufacturability.

Content	*Electric Circuit course discusses the basic concepts of the electric circuit and its analysis. The course including two basic laws of the circuit (Ohm's Law and Kirchhoff's Law), two methods of analysis (nodes and mesh), some useful circuit methods (superposition theorem, thevenin equivalent circuit, Norton equivalent circuits, and maximum power transfer). The next topic of discussion is the principle of capacitors and inductors, responses of circuits with capacitor or inductor (first order circuit), and responses of circuit with resistor, capacitor and inductor (second order circuit) in both series and parallel circuits.*
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. Electric Circuits, Lecture Notes. 2. Pujiono, Rangkaian Listrik, Graha Ilmu, 2010. 3. WH Hayt, JE Kemmerly, and SM Durbin, Engineering Circuit Analysis, McGraw Hill, 8th Edition, 2007. 4. CK Aexander and MNO Sadiku, Fundamental of Electric Circuit, McGraw Hill, 8thEdition, 2013.