

Module Description

Module name	Course Module
Module level, if applicable	Bachelor of Electronics Engineering
Code, if applicable	5215-060-3
Subtitle, if applicable	
Course, if applicable	Electronics III
Semester(s) in which the module is taught	4
Person responsible for the module	Lecturer of Course
Lecturer	Dr. Wisnu Djatmiko, MT.
Language	Indonesian Language [Bahasa Indonesia]
Relation to Curriculum	This course is a compulsory course and offered in the 4 th semester.
Type of teaching, contact hours	<p>Teaching methods used in this course are:</p> <ul style="list-style-type: none"> - Lecture (i.e., group investigation, small group discussion, casestudy, and video-based learning) - Structured assignments (i.e., essays and case study) <p>The class size for lecture is 30 students. Contact hours for lecture is 27 hours, assignments are 32 hours</p>
Workload	<p>For this course, students required to meet a minimum of 91 hours in one semester, which consist of:</p> <ul style="list-style-type: none"> - 27 hours for lecture, - 32 hours for structured assignments, - 32 hours for private study
Credit points	2 credit points (equivalent with 2.88 ECTS)
Requirements according to the examination regulations	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.
Recommended prerequisites	Students must have attended all classes and submitted all class assignments that are scheduled before the final tests.

<p>PLO-CLO-ILO</p>	<p>After completing the course and given with this case:</p> <p>Course Learning Objectives (CLO1): Mahasiswa mampu memahami rangkaian osilator, semikonduktor transport, IC monolitik, penggunaan IC analog, penguat operasional dan diferensial, filter aktif. (K1) (10)</p> <p>Course Learning Objectives (CLO2): Mahasiswa mampu menganalisis perkembangan rangkaian terpadu (K1, S2, S3, C2) (20)</p> <p>Course Learning Objectives (CLO3): Mahasiswa mampu merancang lay out komponen rangkaian monolitik (K2, S1, S3, C1) (30)</p> <p>Course Learning Objectives (CLO4): Mahasiswa mampu merancang rangkaian terpadu analog secara manual dan berbantuan komputer (K2, S1, S3, C1) (40)</p> <p>Program Learning Outcome (PLO3): Menerapkan kompetensi teknik elektronika untuk memecahkan masalah keteknikan</p> <p>Knowledge (K2): Untuk menerapkan prinsip-prinsip teknik elektronika untuk memecahkan masalah dalam sistem teknik elektronika</p> <p>Engineering and Education Skill (S1): Mampu merancang prinsip dan aplikasi sistem rekayasa elektronik</p> <p>Engineering and Education Skill (S3): Mampu mencari alternatif solusi dan pemecahan masalah di bidang teknik elektronika.</p> <p>Competence (C1): Menerapkan teknologi baru di bidang rekayasa dengan mempertimbangkan standar teknis, aspek kinerja, keandalan, penerapan, dan keberlanjutan</p>
<p>Content</p>	<p>Students will learn about: Electronics III course discusses the working concepts, parameters, and implementation of the OpAmp IC; the concept of loading; OpAmp IC concept as a signal amplifier; and implementation of OpAmp ICs as buffers, non-inverting amplifier circuits, inverting amplifier circuits, audio filter circuits using OpAmp ICs.</p>
<p>Forms of Assessment</p>	<p>Assessment is carried out based on written examinations, assessment/evaluation of the learning process and performance with the following components: Structured tasks: 10%; Final Test: 50%; Active student participation: 15%; Project: 25%</p>

Study and examination requirements and forms of examination	Study and examination requirements: <ul style="list-style-type: none"> - Students must attend 15 minutes before the class starts. - Students must switch off all electronic devices. - Students must inform the lecturer if they will not attend the class due to sickness, etc. - Students must submit all class assignments before the deadline. - Students must attend the exam to get final grade. Form of examination: Written exam: Essay
Media employed	Direct Whiteboard, Google classroom, Tutorial Video by Youtube and Power Point Presentation.
Reading list	<ol style="list-style-type: none"> 1. Sergio Franco, 2002, Design with Operational Amplifier and Analog Integrated Circuit – Third Edition, New York, McGraw Hill. 2. Mahmood Nahvi, dan Joseph A. Edminister, 2004, Rangkaian Listrik Edisi Keempat (Alih Bahasa: Gunawan Prasetyo dan Wiwit Kastawan), Penerbit Erlangga, Jakarta. 3. Thomas L. Floyd, dan David Buchla, 2002, Fundamentals of Analog Circuits Second Edition, Prentice Hall, New Jersey. 4. William H. Hayt, Jack E. Kemmerly, dan Steven M. Durbin, Rangkaian Listrik Jilid 1 Edisi Keenam (Alih Bahasa : Wiwit Kastawan), Penerbit Erlangga, Jakarta. 5. Texas Instruments Incorporated, 2000, Datasheet IC 741 GENERAL PURPOSE OPERATIONAL AMPLIFIERS, Texas Instruments, Texas. 6. ©Koninklijke Philips Electronics, 2001, Datasheet IC LM111/211/311/311B Voltage comparator, Philips Semiconductor. 7. Fakultas Teknik - UNJ, 2017, Pedoman Penyusunan Rencana Pembelajaran Semester (RPS) UNJ, Fakultas Teknik, Universitas Negeri Jakarta. 8. Fakultas Teknik - UNJ, 2012, Pedoman Akademik Fakultas Teknik (FT) 2012/2013, Fakultas Teknik, Universitas Negeri Jakarta.