



MODULE HANDBOOK DESCRIPTION

Module designation	<i>Electronic Circuits</i>	
Code	<i>FBB3101</i>	
Semester(s) in which the module is taught	<i>5/Third year</i>	
Person responsible for the module	<i>Paniran, ST., MT.</i>	
Language	<i>Indonesian</i>	
Relation to curriculum	<i>Compulsory for all majors</i>	
Teaching methods	<i>lectures, small group discussion, case base method.</i>	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester: <ul style="list-style-type: none"> • Lectures: 3 x 50 minutes • Exercises and Assignments: 3 x 60 minutes • Private study: 3 x 60 minutes. total study hours = 8 hours 30 minutes/week	
Credit points	<i>3 SKS (~ 4.8 ECTS)</i>	
Required and recommended prerequisites for joining the module	- <i>Electrical Circuit 1 (FBS1213)</i> - <i>Basic Electronics (FBS2125)</i>	
Module objectives/intended learning outcomes	1. <i>Students are able to explain the Bipolar Junction Transistor (BJT) Models, BJTs Small-Signal Analysis, FETs Small-Signal Analysis, System Approach-effect of Load Impedance (R_L) and Source Impedance (R_S), Power Amplifiers, Power Supplies (Voltage Regulators), PNP and Other Devices</i>	<i>PLO2</i>
	2. <i>Students are able to analyse the Bipolar Junction Transistor (BJT) Models, BJTs Small-Signal Analysis, FETs Small-Signal Analysis, System Approach-effect of Load Impedance (R_L) and Source Impedance (R_S), Power Amplifiers, Power Supplies (Voltage Regulators), PNP and Other Devices</i>	<i>PLO3</i>

	3. <i>Students are able to design the BJTs, JFETs, Load Impedance (R_L) and Source Impedance (R_S), and Power Supplies (Voltage Regulators).</i>	<i>PLO4</i>
Content	<ol style="list-style-type: none"> 1. <i>Bipolar Junction Transistor (BJT) Models</i> 2. <i>BJTs Small-Signal Analysis (AC)</i> 3. <i>FETs Small-Signal Analysis (AC)</i> 4. <i>System Approach-effect of Load Impedance (R_L) and Source Impedance (R_S)</i> 5. <i>Power Amplifiers</i> 6. <i>Power Supplies (Voltage Regulators)</i> 7. <i>PNPN and Other Devices</i> 	
Examination forms	<ul style="list-style-type: none"> - <i>Written case study</i> - <i>Midterm and final test</i> 	
Study and examination requirements	<p><i>The final grade in the module is composed of:</i></p> <ol style="list-style-type: none"> a. <i>Case I assessment: 15%</i> b. <i>Case II assessment: 15%</i> c. <i>Midterm assessment: 35%</i> d. <i>Final assessment: 35%</i> <p><i>Students must have a final grade of 65% or higher to pass</i></p>	
Reading list	<ol style="list-style-type: none"> 1. <i>Robert Boylestad and Louis Nashelsky. 2012. Electronic Devices and Circuit Theory 11th Ed. Pearson New International Edition</i> 2. <i>Neil Storey, 2017. Electronics: A Systems Approach, 6th edition. Pearson New International Edition.</i> 3. <i>John Birds, 2021. Electrical and Electronic Principles and Technology, Third Edition 7th Edition, Routledge.</i> 4. <i>Gerado Mesias, 2017. Electronics: Theory and Practice 1st ed, Routledge</i> 	