



UNIVERSITAS GADJAH MADA

Faculty of Mathematics and Natural Sciences

Department of Computer Science and Electronics

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Bachelor in Electronics and Instrumentation

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MODULE HANDBOOK

Module name	Electronics	Analog
Module level	Undergraduate	
Code	MII-2301	
Courses (if applicable)	Analog Electronics	
Semester	Fall (Odd)	
Contact person	Danang Lelono	
Lecturer	Danang Lelono, Abdul Ro'uf	
Language	Bahasa Indonesia & English	
Relation to curriculum	1. Undergraduate degree program, compulsory, 3th semester. 2. International undergraduate program, compulsory, 3th semester.	
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 80 students, 2. International undergraduate program: lectures, < 30 students.	
Workload	1. Lectures: 2 x 50 = 100 minutes (1 hours 10 menit) per week. 2. Exercises and Assignments: 2 x 50 = 100 minutes per week. 3. Private study: 2 x 50 = 100 minutes 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.	
Recommended prerequisites	-	
Learning outcomes (course outcomes) and their corresponding PLOs	After completing this module, a student is expected to: CO1 Students are able to understand, explain the basic concepts of the circuit electronics, Semiconductors, Diodes, Transistors, Op-Amp CO2 Students are able to understand and explain the function of Diode as rectifier, transistor and op-amp as amplifier. CO3 Students are able to apply Diodes, Transistors and Op-Amp on electronics circuit CO4 Students are able to design diode-based electronic circuits, Transistors and Op-Amps CO5 Independent to learn further and think logically and analytically solve the problem by involving Diodes, Transistors and Op-Amp and embodied in electronic circuits.	

	<table> <tr> <th>PLO</th> <th>CO1</th> <th>CO2</th> <th>CO3</th> <th>CO4</th> <th>CO5</th> </tr> <tr> <td rowspan="5">Program Learning Outcome (PLO)</td> <td>PLO1</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PLO2</td> <td>√</td> <td>√</td> <td></td> <td></td> </tr> <tr> <td>PLO3</td> <td></td> <td></td> <td>√</td> <td>√</td> </tr> <tr> <td>PLO4</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PLO5</td> <td></td> <td></td> <td></td> <td>√</td> </tr> </table>	PLO	CO1	CO2	CO3	CO4	CO5	Program Learning Outcome (PLO)	PLO1					PLO2	√	√			PLO3			√	√	PLO4					PLO5				√																	
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Contents	1. Electronics Circuit 2. Semiconductor 3. Diode 4. Transistor 5. Amplifier 6. Op-Amp 7. Oscillator 8. Power Supply 9. Electronics Control Devices																																																	
Study and examination requirements and forms of examination	The evaluation is done in 3 forms, namely: 1. Trial, either midterm or semester test, 2. Four tasks, individual assignments to be completed within a certain timeframe, and 3. Two quizzes, held on face-to-face, once before midterm exam and once after midterm exam, with a short answer form. Assessment is done using benchmark assessment, with the aim of measuring the level of student understanding related to the target and class rank.																																																	
Media employed	LCD, blackboard, and websites.																																																	
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Reading List	[1] Malvino, Albert & Bates, David J. 2015: Electronic Principles, 8th Edition, McGraw-Hill, New York. [2] Schultz, Mitchel E. 2007: Grob's Basic Electronics, 10th Edition, McGraw-Hill, New York.																																																	

[3] Bishop, Owen, 2006: Electronics, 2nd Edition , Elsevier, Tokyo
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