



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	Measurement Method
Module level	Undergraduate
Code	MII-1304
Courses (if applicable)	Measurement Method
Semester	Summer (Even)
Contact person	Dr. Danang Lelono, S.Si., MT.
Lecturer	Dr. Danang Lelono, S.Si., MT.
Language	Bahasa Indonesia
Relation to curriculum	1. Undergraduate degree program, compulsory, 2th semester. 2. International undergraduate program, compulsory, 2th semester.
Type of teaching, contact hours	1. Undergraduate degree program: lectures, < 60 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 recognize and understand the completeness of the experiment. CO2 Students know and understand the types and performance of instruments, the use of electronic test and measuring instruments. CO3 Students independently to study further and think logically and analytically to measure electronic quantities. CO4 Students are able to analyze the instrumentation process and the sampling method in the experimental data. CO5 Students are able and competent to analyze the needs of hardware components for the implementation of electronic quantity measurements

	<table><tr><th colspan="2">PLO</th><th>CO 1</th><th>CO 2</th><th>CO 3</th><th>CO 4</th><th>CO 5</th></tr><tr><td rowspan="5">Program Learning Outcome (PLO)</td><td>PLO1</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PLO2</td><td>√</td><td></td><td></td><td></td><td></td></tr><tr><td>PLO3</td><td></td><td>√</td><td>√</td><td></td><td></td></tr><tr><td>PLO4</td><td></td><td></td><td></td><td>√</td><td></td></tr><tr><td>PLO5</td><td></td><td></td><td></td><td></td><td>√</td></tr></table>	PLO		CO 1	CO 2	CO 3	CO 4	CO 5	Program Learning Outcome (PLO)	PLO1						PLO2	√					PLO3		√	√			PLO4				√		PLO5					√											
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Contents	1. Introduction to measurement 2. Types, Characteristics, and Instrument performa 3. Electrical Test Instruments and Pointers 4. Variable Convetion elements 5. Varying Method to measure Physic Fenomenon																																																	
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. Five 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] Morris, Alan S,Malvino, 2007: Measurement & Instrumentation rinciples, 3th Edition, McGraw-Hill, New York. [2] Placko, Dominique, 2007: Fundamentals of Instrumentaion & Measurement, ISTE USA, Newport Beach. [3] William C. Dunn, Fundamentals of Industrial Instrumentation and Process Control, Newnes, 2005. [4] Diktat Kuliah Metoda Pengukuran Fisis dan Instrumentasi, Dr.G.H. Dulfer dan Drs. Fadeli FMIPA-UGM																																																	

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