



**MODULE HANDBOOK DESCRIPTION**

Module designation	<b>INDUSTRIAL ELECTRONICS</b>	
Code	<b>FBB3106</b>	
Semester(s) in which the module is taught	5 / Third year	
Person responsible for the module	Dr. Ir. I Ketut Wiryajati, ST., MT., IPU., ASEAN.Eng.	
Language	Indonesian	
Relation to curriculum	Compulsory for electronics Engineering	
Teaching methods	Lectures, small group discussion, Project base method.	
Workload (incl. contact hours, self-study hours)	<p>Contact minutes every week, each week of the 16 weeks/semester:</p> <ul style="list-style-type: none"> <li>• Lectures: 3 x 50 minutes</li> <li>• Exercises and Assignments: 3 x 60 minutes</li> <li>• Private study: 3 x 60 minutes.</li> </ul> <p>total study hours = 8 hours 30 minutes/week</p>	
Credit points	3 SKS (~ 4,8 ECTS)	
Required and recommended prerequisites for joining the module	<ul style="list-style-type: none"> <li>- Basic Electric Power (FBS2126)</li> <li>- Basic Electronics (FBS2125)</li> </ul>	
Module objectives/intended learning outcomes	The Students able to choose methods, design experiments with simulations, and analyze results to reach the right conclusions, as well as develop guidelines for using device industrial electronics	PLO3
	The Students Able to design and develop components, systems and/or processes to support engineering activities and create technological innovations by optimally utilizing potential resources in electronic devices	PLO 4

	The Students able to design and carry out experiments using basic and modern technical tools and analyze and interpret data based on the correct methodology to strengthen engineering assessments	PLO 5
Content	Introduction to Industrial Electronics Devices, Operational Amplifiers in Industrial Application, Modulation Techniques and Applications on Inverters, Power Electronics Devices and Their Applications, Power Converter, Power Supply, Basic device controller, Applications of Artificial Intelligence in Industry, Motor Settings and Applications, Servo Motor Settings, Digital Systems and their Applications, Digital Systems and their Applications.	
Examination forms	<ul style="list-style-type: none"> <li>- Collecting a portfolio after finishing each topic, in the form of voice recordings and working on practice assignments</li> <li>- Midterm and final test</li> </ul>	
Study and examination requirements	<p>The final grade in the module is composed of:</p> <ul style="list-style-type: none"> <li>a. The portfolio of 10 topics is 11,67% each, for a total of 75%</li> <li>b. Midterm assessment: 10%</li> <li>c. Final assessment: 15%</li> </ul> <p>Students must have a final grade of 65% or higher to pass</p>	
Reading list	<ol style="list-style-type: none"> <li>1. Industrial Electronics and Robotics, Charles A. Schuler, 1986 McGraw-Hill</li> <li>2. Sapiie Soedjana, (1976).Pengukuran dan Alat-Alat Ukur Listrik, Jakarta, PT. Pradnya Paramita,Jakarta.</li> <li>3. Thomas Floyd, David Buchla, 2003, <i>Fundamentals of Analog Circuits, second edition</i>, Prenhall Inc. New Jersey, USA</li> </ol>	