

Course Code	TKIE161204													
Course Name	Digital Systems													
Course Instructors	Addin Suwastono; Risanuri Hidayat; Litasari; Sujoko Sumaryono													
Course Type	Required													
Course Classification	Basic Science & Math													
Credit / Contact Hour per Week	2 / 100 minutes per Week													
Course Description	Students are able to analyse, design, and evaluate digital system with medium complexity that composed by small scale ICs, medium scales ICs, and Programmable Logic Device.													
Prerequisites Courses	-													
Covered Student Outcome	Fundamental Engineering Knowledge (a) Development of Engineering Solution (b)													
Learning Outcome	<ol style="list-style-type: none"> 1. Able to present and analyze digital systems. 2. Able to construct Boolean Equations or expressions and minimize Boolean Functions. 3. Able to design combinatorial circuit and sequential circuit. 4. Designing digital systems based on PLD (Programmable Logic Device) tools. 													
Topic	<ol style="list-style-type: none"> 1. Introductions 2. Numeral System and Binary Representation 3. Boolean Algebra 4. Combinatorial Logic Circuit 5. MSI Combinatorial Module 6. Sequential Circuit 7. Programmable Logic Device 													
Direct Assesment	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Direct Assesment Plan</th> <th style="text-align: left;">Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1, LO2</td> </tr> <tr> <td>Final Exam</td> <td>LO3, LO4</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		Direct Assesment Plan	Measured Learning Outcome	Mid Exam	LO1, LO2	Final Exam	LO3, LO4						
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Mid Exam	LO1, LO2													
Final Exam	LO3, LO4													
Indirect Assesment	Questionnaire and direct communication													
References	<p>[1] John F. Wakerly, 2002, Digital Design Principles and Practices, 7 ed, Prentice-Hall International</p> <p>[2] Anil K. Maini, Digital Electronics Principles, Devices and Applications, 2007, Prentice-Hall International.</p> <p>[3] Ronald J. Tocci and Neal S. Widmer, 1998, Digital Systems Priciples and Applications, Prentice-Hall, Inc</p> <p>[4] Moris Mano, M. and Michael D. Ciletti, 2013, Digital Design With an Intruduction to the Verilog HDL, fifth ed. Pearson Education, Inc., publishing as Prentice Hall, One Lake Street, Upper Saddle River, New Jersey 07458</p>													