

Course Code	TKEE165212							
Course Name	Power Electronic							
Course Instructors	Eka Firmansyah;							
Course Type	Elective							
Course Classification	Engineering Topics							
Credit / Contact Hour per Week	3 / 150 minutes per Week							
Course Description	This course provides an application of electronics knowledge in the area of power supply							
Prerequisites Courses	-							
Covered Student Outcome	Development of Engineering Solution (b) Engineering Design (c) Modern Tools Utilization (e)							
Learning Outcome	1. Students are able to implement the knowledge of mathematics and electronics to apply to the efficient conversion of electric energy with the concept of switching							
Topic	<ol style="list-style-type: none"> 1. The concept of electric energy conversion efficiently using switching techniques, 2. the function of electromagnetic components in the conversion of electrical energy, 3. switching components and how to trigger it, 4. Basic Topology, 5. Basic control switching power supply, 6. Utilization of power electronics science in STL application. 7. Students can design and simulate a simple switching power converter with spice. 							
Direct Assessment	<table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Direct Assessment Plan</th> <th style="text-align: left;">Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Mid Exam</td> <td>LO1</td> </tr> <tr> <td>Final Exam</td> <td>LO1</td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Mid Exam	LO1	Final Exam	LO1
Direct Assessment Plan	Measured Learning Outcome							
Mid Exam	LO1							
Final Exam	LO1							
Indirect Assesment	Questionnaire (EDOM)							
References	<ol style="list-style-type: none"> [1] Power Electronics, Mohan-Undeland. [2] Power Electronics, Rashid. [3] SMPS I and II, Microchip Application Notes. 							