Course Code	TKEE163211
Course Name	Advanced Power Machine
Course Instructors	Tiyono
Course Type	Selected Elective
Course Classification	Engineering Topics
Credit / Contact Hour per Week	3 / 150 minutes per Week
Course Description	Understanding the concept of magnetic and electromechanical circuits, magnetic materials, transformer operating characteristics, synchronous and induction machine dynamics models, reference frames, electrical engineering design and control techniques.
Prerequisites Courses	Basic Electric Machines
Covered Student Outcome	**Development of Engineering Solution (b)** **Engineering Design (c)** **Modern Tools Utilization (e)**

Learning Outcome	1. Students are able to nderstand the concept of magnetic and electromagnetic circuits. 2. Students are able to understand the characteristics of the transformer operation (inrush current, the influence of frequency and operating voltage) 3. Students are able to understand the dynamic model of synchronous and induction machines 4. Students are able to understand the model of the reference frame 5. Students are able to understand engineering design and control of electric machine
Topic	1. The concept of magnetic and electromechanical circuits, and magnetic materials 2. Characteristics of transformer operation 3. DC machine dynamics model, synchronous and induction 4. Reference frame (Park transformation) 5. Electrical engineering design and control
Direct Asessment	
Indirect Assesment	Questionnaire (EDOM)
References	[1] Chapman, Stephen J., 2005, Electric Machinery Fundamentals, 4th., McGraw-Hill [2] Wildi, Theodore. 2002. Electrical Machines, Drives, and Power Systems, 5th., Prentice Hall [3] Paul C. Krause, 1986, "Analysis of Electric Machinery", McGraw-Hill Series in Electrical Engineering ISBN 0-07-035436-7

Direct Asessment Plan	**Measured Learning Outcome**
Assignment	
Mid Exam	LO1,LO2,LO3
Final Exam	LO3,LO4,LO5