Course Code	TKEE163111
Course Name	Electrical Power Generation
Course Instructors	Bambang Sugiyantoro, Ir., M.T; Yusuf Susilo W.
Course Type	Selected Elective
Course Classification	Engineering Topics
Credit / Contact Hour per Week	2 / 100 minutes per Week
Course Description	This course discuss the theoretical, technological and economical basis of Electrical Power Generation. The theoretical portion of the course deals with the thermodynamic, mechanic and electrical characteristics of power plant. The technology part discuss the currently used technology in power generation. While the economic part discuss the economical aspect of power generation process.
Prerequisites Courses	
Covered Student Outcome	**Fundamental and Engineering Knowledge (a)**

Learning Outcome	1. Students are able to understand the thermodynamics of power plant 2. Students are able to understand the fundamentals of steam based power generation system. 3. Students are able to understand the technical characteristics and working principle of steam turbine power plant generation. 4. Students are able to understand the technical characteristics of internal combustion engine, renewable energy, and hydro power plant. 5. Students are able to understand the characteristics of demand, including load classification, load curve etc. 6. Students are able to understand the economic consequence of technical decision such as power generation scheduling, power plant positioning etc.
Topic	1. Energy Conversion and Power Plant Types 2. Working-Substance in Power Generation 3. Fuel and Combustion 4. Steam Power Plant 5. Internal Combustion Engine 6. Hydro Power Plant 7. Load Curve 8. Selection, Operation and Cost of Power Plant 9. Renewable Energy
Direct Asessment	

Direct Asessment Plan	Measured Learning Outcome
Homeworks	LO1,LO2,LO3,LO4,LO5,LO6
Mid Exam	LO1, LO2,LO3
Final Exam	LO4,LO5,LO6

Indirect Assesment	Questionnaire (EDOM)
References	[1]Nag, P K., 2002, Power Plant Engineering, Tata McGraw-Hill Education, New Dehli [2] A.K. Raja, Amit Prakash Srivastava, Manish Dwved, 2006, Power Plant Engineering, New Age International (P) Ltd. Siskin [3] Larry Drbal, Kayla Westra, Pat Boston desday, 2009, Power Plant Engineering, Publisher: Springer;