



MODULE HANDBOOK DESCRIPTION

Module designation	Electrical Machines	
Code	FBA3104	
Semester(s) in which the module is taught	5/third year	
Person responsible for the module	Ida Bagus Fery Citarsa, ST., MT.	
Language	Indonesian	
Relation to curriculum	Compulsory for electrical power systems students	
Teaching methods	Lecture, small group discussion, case 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"> • Lectures: 3 x 50 minutes • Exercises and Assignments: 3 x 60 minutes • Private study: 3 x 60 minutes. <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	Electrical Power Basics (FBS2126)	
Module objectives/intended learning outcomes	1. Students are able to understand the constructions of three-phase synchronous machines, transformers, three-phase asynchronous machines, single-phase asynchronous machines, and DC machines.	PLO2
	2. Students are able to explain the working principles of three-phase synchronous machines, transformers, three-phase asynchronous machines, single-phase asynchronous machines, and DC machines.	PLO3
	3. Students are able to analyse the equivalent circuits of three-phase synchronous machines, transformers, three-phase asynchronous machines, single-phase asynchronous machines, and DC machines.	PLO4

Content	<ol style="list-style-type: none"> 1. Three Phases Synchronous Machines (Generator and Motor) 2. Transformer (Single Phase and Three Phases) 3. Three Phases Asynchronous Machines (Motor and Generator) 4. Single Phase Asynchronous Machines (Motor) 5. DC Machines (Generator and Motor)
Examination forms	<ul style="list-style-type: none"> - Written case study - Midterm and final test
Study and examination requirements	<p>The final grade in the module is composed of:</p> <ol style="list-style-type: none"> a. Attendance: 10 % b. Assignments: 20 % c. Midterm assessment: 30% d. Final assessment: 40% <p>Students must have a final grade of 65% or higher to pass</p>
Reading list	<ol style="list-style-type: none"> 1. Wildi, Theodore, 2013, Electrical Machines, Drives and Power Systems, Sixth Edition, Pearson Education Limited, Edinburgh Gate. 2. Theraja, B.L, and Theraja, A.K, 2005, A Text Book of Electrical Technology, Volume II, AC & DC Machines, S. Chand & Company Limited, Ram Nagar, New Delhi. 3. Sahdev, S.K, 2018, Electrical Machines, Cambridge University Press, New Delhi. 4. Chapman, S.J, 2005, Electric Machinery Fundamentals, Fourth Edition, McGraw Hill Higher Education, New York.