



MODULE HANDBOOK DESCRIPTION

Module designation	Advanced Electromagnetic	
Code	FBC3101	
Semester(s) in which the module is taught	5 / third year	
Person responsible for the module	Cahyo Mustiko Okta Muvianto, ST., Msc., Ph.D	
Language	Indonesian	
Relation to curriculum	Compulsory	
Teaching methods	Lectures, small group discussion, simulation and design, Quiz.	
Workload (incl. contact hours, self-study hours)	Contact minutes every week, each week of the 16 weeks/semester: <ul style="list-style-type: none"> • Lectures: 2 x 50 minutes • Exercises and Assignments: 2 x 60 minutes • Private study: 2 x 60 minutes. total study hours = 5 hours 40 minutes/week	
Credit points	2 SKS (~ 3.2 ECTS)	
Required and recommended prerequisites for joining the module	-	
Module objectives/intended learning outcomes	1. Students are able to review and analyse of electromagnetic field, static field, field changes with time and Maxwell's equation, wave propagation	PLO3
	2. Students are able to design and simulation of both transmission line and antenna	PLO4
	3. Students are able to experiment using types of transmission line and antenna	PLO5
Content	1. Introduction and review of electromagnetic fields 2. Magnetic field 3. Magnetic field force and torque 4. Inductance and magnetic circuit 5. Field changes with time and maxwell's equation 6. Plane wave propagation through media 7. Transmission line 8. Antenna	
Examination forms	- Essay - Presentation case study - Midterm and final test	

Study and examination requirements	The final grade in the module is composed of: a. Case I assessment: 15% b. Case II assessment: 15% c. Midterm assessment: 30% d. Final assessment: 40% Students must have a final grade of 65% or higher to pass
Reading list	<ol style="list-style-type: none">1. Hayt, Engineering Electromagnet, fifth Edition, terjemahan oleh The Houw Liong (ITB), MacGrarw-Hill, 19812. Wlliam H.Hayt,Jr., John A. Buck, Engineering Electromagnetics, Seventh Edition, terjemahan oleh Penerbit Erlangga, MacGraw-Hill, 2006.

