



MODULE HANDBOOK DESCRIPTION

Module designation	Wave Transmission and Propagation	
Code	FBC3206	
Semester(s) in which the module is taught	6 / third year	
Person responsible for the module	Abdullah Zainuddin, ST., MT.	
Language	Indonesian	
Relation to curriculum	Elective for Telecommunication Engineering	
Teaching methods	Lectures, small group discussion, case base method.	
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: 3 x 50 minutes • Exercises and Assignments: 3 x 60 minutes • Private study: 3 x 60 minutes. Total study hours = 8 hours 30 minutes/week	
Credit points	3 SKS (~ 4.8 ECTS)	
Required and recommended prerequisites for joining the module	- Advance Electromagnetics (FBC3101)	
Module objectives/intended learning outcomes	1. Students are able to select and apply actual modelling, calculating, and analyse the characteristic and performance of transmission line and radio wave propagation	PLO3
	2. Students are able to design transmission line and radio wave propagation to achieve performance objectives	PLO4
	3. Students are able to carry out analysis and find problems that occur in transmission and radio wave propagation systems and are able to provide recommendations for solutions to problems that occur	PLO5

Content	<ol style="list-style-type: none"> 1. Transmission Line characteristics 2. Transmission Line 3. Smith Chart 4. Matching Impedance 5. Electromagnetic Fields and Maxwell Equations 6. Plant Electromagnetic Waves 7. Boundary condition for electromagnetic fields 8. Reflection and Transmission Electromagnetic Waves
Examination forms	<ul style="list-style-type: none"> - Assignment, - Problem solving 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"> 1. Assignment: 10 % 2. Case I assessment: 25% 3. Case II assessment: 25% 4. Midterm assessment: 20% 5. Final assessment: 20% <p>Students must have a final grade of 65% or higher to pass</p>
Reading list	<ol style="list-style-type: none"> 1. William Sinnema, 1979, "Electronic Transmission Technology Lines, Waves and Anntennas", Prentice-Hall, Inc, NJ. 2. Kraus and Carver, 1973, "Electromagnetics", McGraw Hill. 3. Fawwas T. Ulaby, 1997, "Fundamentals of Applied Electromagnetics", Prentice Hall International, Inc. 4. Philip C. Magnusson, et al., 2001, "Transmission lines and wave propagation 4th ed.", CRC Press Boca Raton London New York Washington, D.C.