

MODULE HANDBOOK DESCRIPTION

Module designation	Traffic Engineering (FBC3105)		
Semester(s) in which the module is taught	5 / third year		
Person responsible for the module	Sudi Mariyanto Al Sasongko, S.T., M.T		
Language	Indonesian		
Relation to curriculum	Compulsory on Telecommunication System expertise		
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: • Lectures: 2 x 50 minutes. • Exercises and assignments: 2 x 60 minutes. • Self-learning: 2 x 60 minutes.		
	total study hours = 5 hours 40 minutes/week		
Credit points	2 (~ 3,2 ECTS)		
Required and recommended prerequisites for joining the module	Stochastic Process (FBS2121)		
Program Learning Outcomes (PLO)	 Engineering Analysis (PLO3): Able to choose methods, make literature reviews, design experiments with simulations, and analyze results to reach the right conclusions, as well as develop guidelines for using tools. Engineering Design (PLO4): Able to design and develop components, systems and/or processes to support engineering activities and create technological innovations by optimally utilizing potential resources. Experiment (PLO5): Able to design and carry out experiments using basic and modern technical tools and analyze and interpret data based on the correct methodology to strengthen engineering assessments. 		

Module objectives/intended learning outcomes	Students are able to analyze the basic traffic variations and the basic of busy hour in communications systems.	PLO3
	Students are able to design the traffic network	PLO4
	Students are able to analyze the types, function and process of Poisson and Erlang distribution	PLO3
	Students are able to analyze the types, function and process of Engset and Binomial distribution	PLO3
	Students are able to analysis and design of traffic overflow	PLO4
	Students are able to analysis queueing systems and Markov Chain	PLO3
	Students are able to measure variation traffic cellular	PLO5
	Students are able to simulate variation traffic cellular	PLO5
Content	 Introduction to traffic variations and busy hours Network and traffic system modeling Analysis of the Poisson and Erlang distribution Analysis of the Engset and Binomial distribution Analysis and design of traffic overflow Queuing system and markov chain Application traffic on cellular networks QoS parameter measurement of cellular traffic 	
Examination forms	Written case studyEssay midterm and final test	
Study and examination requirements	The final grade in the module is composed of; a. Attendance assessment: 5 % b. Case I assessment: 15 % c. Case II assessment: 20 % d. Case II assessment: 20 % e. Written Midterm assessment: 20 % f. Written Final assessment: 20 %	
Reading list	 Students mush have a final grade of 65% or higher to p. VB Iversen., Teletraffic Engineering And Network Plan Revised, 2015 Haruo Akimaru and Konosuke Kawashima, Teletraffic and Applications 2nd Ed, 1999 Robert B Cooper and Daniel P Heyman, Teletraffic The Engineering, 1998 	nning :: Theory