# ABSTRACT

*Communication System is a compulsory subject for students in Diploma of Telecommunication Engineering, Telkom University which has 3 credits. At this time there is not a Matlab-base simulator that simulates analog signals especially in the Faculty of Applied Sciences in the field of D3 Telecommunication Engineering in the course of communication systems so from it made simulator FM signal (Frequency Modulation) to help learning analog signals in the course of communication systems especially practicum to be more efficient and more familiar with the material FM (Frequency Modulation).*

*In this final project will be designed a Matlab based Matlab (Frequency Modulation) performance simulator on AWGN (Additive White Gaussian Noise) and Rayleigh Cahnnel. The simulator consists of modulation and demodulation blocks in which the input signal is a single sinusoidal signal.*

*In this simulator, it has been conducted a beta test result which states that this simulator is able to improve the understandment about FM modulation with percentage equals to 93,20% and also works as its function with percentage equals to 95,50%. In addition, the output of modulation and demodulation process is in accordance with the theory.*

***Keywords: Modulation, Demodulation, FM (Frequency Modulation), Simulator, Matlab***