

Course Code	TKEE162106P													
Course Name	Telecommunication Engineering Lab Work													
Course Instructors	Budi Setiyanto													
Course Type	Required													
Course Classification	Engineering Topics													
Credit / Contact Hour per Week	1 / 150 minutes per Week													
Course Description	In this Lab Work the students learn about several modulation techniques, basic telephony systems, synchronous and asynchronous systems, as well as communication using optical fiber media.													
Prerequisites Courses	-													
Covered Student Outcome	Data and Experiment (d) Multidisciplinary Teamwork (h)													
Learning Outcome	<ol style="list-style-type: none"> 1. Students are able to show and demonstrate the operations of a standard telephony system using a simple telephony tutorial 2. Students are able to explain several fundamental modulation techniques, including amplitude modulation, frequency modulation, and phase modulation 3. Students are able to explain the procedure to generate an analog modulated signal, show and demonstrate an advanced analog modulation techniques, and evaluate the impact of attenuation on modulated signal 4. Students are able to show and demonstrate the concept of synchronous communication, serial communication, and parallel communication 5. Students are able to explain serial asynchronous communication process using a RS-232 interface 6. Students are able to explain the transmission of both digital and analog signals using optical fiber communication 													
Topic	<ol style="list-style-type: none"> 1. Telephony Tutorial System 2. Basic Analogue Communication 3. Modulation Process 4. Synchronous Digital Transmission 5. Asynchronous Serial Communications 6. Optical Communication System 													
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Lab Work Report</td> <td>LO1 LO2 LO3 LO4 LO5 LO6</td> </tr> <tr> <td>Pretest</td> <td>LO1 LO2 LO3 LO4 LO5 LO6</td> </tr> <tr> <td>Post Test</td> <td>LO1 LO2 LO3 LO4 LO5 LO6</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Lab Work Report	LO1 LO2 LO3 LO4 LO5 LO6	Pretest	LO1 LO2 LO3 LO4 LO5 LO6	Post Test	LO1 LO2 LO3 LO4 LO5 LO6				
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Indirect Assesment	Questionnaire (EDOM)													
Referenced	[1] B. Setiyanto, 2010, Dasar-dasar Telekomunikasi, Sakti													