

Course Code	TKEE163245					
Course Name	Telecommunication Networks					
Course Instructors	Wahyu Dewanto					
Course Type	Selected Elective					
Course Classification	Engineering Topics					
Credit / Contact Hour per Week	2 / 100 minutes per Week					
Course Description	<p>This course studies the concepts and theories related to communication networks in general and telecommunication networks of telephones in particular. Telecommunication Network Materials include: Introduction; Basic telephony system; Basic switching techniques; Basic signaling technique; Transmission design; The customer's system; The design of numbering; Sound signal processing; Transmission media; Telephone network material.</p> <p>This course is given in semester 6 and is mandatory subject of concentration of signaling system & electronics specialization field of telecommunication. This 2 credits weighted course should be taken after following the Basic Telecommunication course (Telecommunication Engineering and Communication System). It is intended that the students already have the knowledge of the field of telecommunications during the jartel lecture ini. Agar understanding of the students will be more in-depth study materials, then the assignment of field observations on the existing telecommunications network field is also given. Things found in the field can be discussed in the classroom.</p>					
Prerequisites Courses						
Covered Student Outcome	Fundamental and Engineering Knowledge (a)					
Learning Outcome	<ol style="list-style-type: none"> 1. Students are able to understand the basics of the workings of the telephone system and how the connecting process can be implemented. 2. Students are able to understand the constraints in the transmission of telephone signals and various parameters to measure signal attenuation during transmission. 3. Students are able to understand the various voice signal processing methods used in telephony communication networks with the various restrictions that exist and possibly improve channel efficiency within the limited field width. 4. Students are able to understand and be able to explain in general the various transmission mediums that can be used in telephone communication networks and their requirements. 5. Students are able to understand the various materials that have been used by telecommunication service companies in Indonesia in establishing telephone network infrastructure, especially PSTN. 6. Students are able to understand the telecommunication network structure of telephon in DIVRE IV covering Central Java and DIY, real problems in the field and its solutions, especially related to the performance of PT.Telkom Tbk. 					
Topic	<ol style="list-style-type: none"> 1. Introduction to Telecommunication Network 2. Basic Telephone System 3. Basic Switching Technique 4. Basic Signaling Technique 5. Transmission Design 6. Customer Loop System 7. Numbering Design & Billing 8. Sound Signal Processing 9. Media Transmission 10. Telephone Network Materials 11. Local Jartel Structure in DIVRE IV 12. Presentation and Discussion of Field Observation Results 					
Direct Assessment	<table border="1"> <thead> <tr> <th>Direct Assessment Plan</th> <th>Measured Learning Outcome</th> </tr> </thead> <tbody> <tr> <td>Assignments</td> <td>LO2, LO5</td> </tr> </tbody> </table>		Direct Assessment Plan	Measured Learning Outcome	Assignments	LO2, LO5
Direct Assessment Plan	Measured Learning Outcome					
Assignments	LO2, LO5					

	Mid Exam	LO1, LO2, LO3
	Final Exam	LO3, LO4, LO5, LO6
Indirect Assesment	Questionnaire (EDOM)	
References	<p>[1] Flood, J.E.,1994, <i>Telecommunications Switching, Traffic and Networks</i>, Prentice Hall Europe</p> <p>[2] Freeman, R.L., 1994, <i>Reference Manual for Telecommunications Engineering</i>, 2nd Edition, John Wiley & Sons Inc., New York</p> <p>[3] Viswanathan, T., 1992, <i>Telecommunication Switching Systems & Networks</i>, Prentice Hall of India, New Delhi</p> <p>[4] Wahyu Dewanto, 2003, Analisis Angka Gangguan Jaringan Lokal PSTN Sebagai Indikator Kinerja Manajemen Jaringan Telekomunikasi Pada Distel Yogyakarta, Thesis S2, Teknik Elektro FT-UGM, Yogyakarta</p> <p>[5] Anonim, Buku Panduan Instalasi Jaringan Telefon di Indonesia, PT.Telkom Tbk.</p>	